

WORK TASK 5.2

PHASE 2 REPORT

THE COASTAL WETLANDS MAPPING
PROGRAM, NEW HAMPSHIRE

Prepared for

The New Hampshire Coastal Program
Office of State Planning, NH

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NORMANDEAU ASSOCIATES, INC.
**ENVIRONMENTAL SCIENTISTS,
ENGINEERS & PLANNERS**

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PROGRAM, NEW HAMPSHIRE

Prepared for

The New Hampshire Coastal Program
Office of State Planning, NH

Prepared by

Martin C. Michener
Gretchen Stevens
Michael H. Simpson

Normandeau Associates, Inc.
25 Nashua Road,
Bedford, NH 03102

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1.0 INTRODUCTION

1.1 GOALS OF THE STUDY

Normandeau Associates, Inc. (NAI) has completed the inventory and mapping of wetlands and sand dunes in the six coastal New Hampshire towns of New Castle, Rye, North Hampton, Hampton, Hampton Falls, and Seabrook (Figure 1). Copies of the maps have been provided along with this report to the Office of State Planning and to each town.

This report is primarily intended to provide users of these maps in each town with a tool for medium intensity planning. The tool immediately provides:

1. Mapping of approximate boundaries of dunes and wetlands on aerial photographs taken during March, 1986, at a scale of 1" = 200 ft. Specific dunes and larger wetlands are identified by unique five-letter codes.
2. Mapping of approximate boundaries of poorly-drained soils where they extend beyond wetland boundaries (as hatched areas enclosed by dashed lines) superimposed on the same aerial photos.
3. A means of evaluating wetlands and dunes in each town; a list of observations for salt marshes & larger wetlands; and a table of model results by which to gauge the values of the larger and many of the smaller mapped freshwater wetlands; these include:
 - a. a brief list of the representative plants in each wetland and summary of the overall ecological community structure (trees, shrubs, etc.)
 - b. the value to wildlife and downstream aquatic life
 - c. value for groundwater recharge,
 - d. value for flood water retention,
 - e. value for shoreline protection from erosion,
 - f. value for the maintenance of surface water quality,

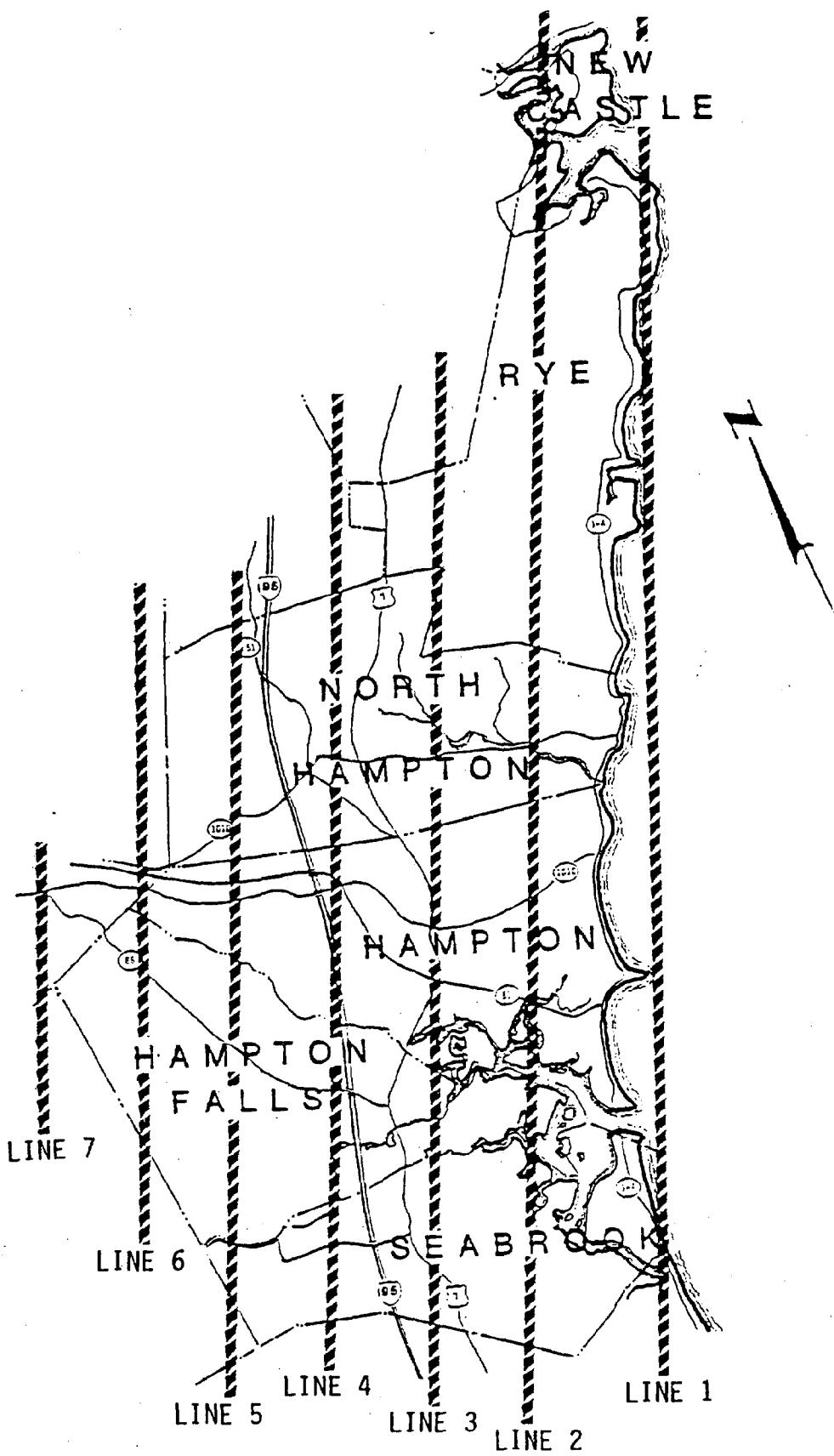


Figure 1. Study Area for Coastal Mapping Project.

- g. value for economic, recreational, aesthetic and educational potential.

This report secondarily provides data and guidelines to each town for continuing the planning process in greater detail:

- 4. Establishing a scientific basis for reviewing projects, to present evidence to aid the NH State Wetlands Board (NHSWB) and the US Corps of Engineers (COE) in permit review, so the towns will have a more important role in development decisions and the resulting impacts to each community.
- 5. Mapping the prime wetlands in the town.

1.2 REPORT OVERVIEW

This report is organized to accommodate a range of users from layman to planner; it progresses from a "how-to" beginning to a detailed account of the concepts, methods and results in the appendices:

- 2.0 This section explains how to approach wetlands location and evaluation and gives the model results. It also describes what these maps and data do not do.
- 3.0 This section explains in more detail the definition of wetlands and dunes, and how the maps and model results can provide additional information important in minimizing impacts from projects.
- 4.0, 5.0 and 6.0 These three appendices contain detailed evaluation results for freshwater wetlands, salt marshes, and dunes. These include descriptions of the areas and results of the study.

2.0 GUIDE TO USING WETLANDS MAPS AND EVALUATIONS

2.1 WHAT ARE WETLANDS?

Wetlands are neither open water nor well drained dry land; they are intermediate areas subject to high water during some of each year's growing season. They are shown on the project maps by solid lines; the more significant wetlands along with some smaller wetlands are identified by unique codes. Within these areas, high water causes a saturated condition in the upper 24 inches of soil, producing a community of plants adapted to wetness. In a complex and interactive process, soils saturated with water above 5 degrees C (41 degrees F) become rapidly depleted of oxygen, killing the root systems of most plants. Wetland plants have adaptations allowing them to survive this lack of oxygen.

Saturation also leads to chemical conditions in which the soil turns shades of grey or black, replacing the normal yellow or red colors (chroma) or causing visible mottling to appear among the lumps of soil. These features place the soil in either the "Very Poorly Drained" or the "Poorly Drained" category. Note that, in this usage, the word "drained" has a special meaning denoting height of the yearly water table. Some sandy permeable soils are "Very Poorly Drained" due to their low location relative to the nearest stream or river. "Permeable" denotes ease of water movement through the soil; "drained" denotes how close to the soil surface the water table lies.

Most people are aware that septic system leachfields function poorly in saturated soils, causing groundwater pollution. Wetlands were first legally defined as areas unsuited to septic systems and many people still think of them in this very limited sense. High intensity soils mapping is essential to define the proper placement of leach-fields.

2.2 WHAT ARE DUNES AND SALT MARSHES?

Dunes, rare in New Hampshire, are ridges or mounds of loose sea sand, formed by waves and wind, trapped by plants specially adapted to the sandy conditions. Wind-born sand moves during dry, windy weather in dune areas, filling in calm areas and eroding peaks exposed to the force of the wind. Dunes are fragile ecosystems because they depend on plants for stability and these plants are easily impacted by man's activities. Typical dune plants in New Hampshire include dune grass (*Ammophila breviligulata*), beach pea (*Lathyrus japonicus*), beach plum (*Prunus maritima*), and seaside goldenrod (*Solidago sempervirens*). Dunes are protected by NH state law from development. They are delineated on project maps by solid lines and identifying codes which start with "DU". Detailed results are presented for 12 dunes with identifying numbers in Appendix Section 6.0.

Salt marshes are level areas regularly inundated by the salt tides. In New Hampshire, tidal wetlands are protected up to $3\frac{1}{2}$ feet above local mean high tide. They are shown on project maps by solid lines and identifying codes starting with "SM". Woody plants cannot survive in salty soils, which are usually dominated by salt marsh grass (*Spartina* spp.). The combination of salt and peat preserves the layers of organic muck as long as the peat is a part of an intact tidal system. Road culverts and banks may restrict the normal tidal flushing, allowing the salt to be slowly washed out of the marsh peat. In many areas of NH, this process has already degraded many salt marshes by a sequence of events: fresh rain water replaces the salty water, flushing out the salt. Lacking the salt preservative, the peat oxidizes, becomes acid, rots and slumps, producing offensive odors. Pools form in depressions in the rotting soil, on which little vegetation will grow. Evaporation during dry weather concentrates any salt in these shallow pools, so they become too salty for fauna to survive. This means they make poor feeding places for birds, and lack the fish which normally control mosquitoes. Inundation by the highest tides (spring tides) allows the brief breeding of the salt marsh mosquito, and these impacted marshes

become a major nuisance. More detailed accounts of these developmental processes, along with evaluations of the existing impacts to NH salt marshes, are presented for 51 numbered salt marshes in Appendix Section 5.0.

2.3 WHAT ARE WETLAND BENEFITS?

The study of wetlands has shown that they provide benefits to the public well beyond any negative effects associated with mosquito production or failing septic systems. Wetlands provide necessary habitat to many birds and wildlife not associated with upland or open water areas. Freshwater wetlands located along a stream or river help downstream abutters by controlling flood crests, providing water quality purification, and maintaining water purity and flow during dry periods (important to protect downstream fresh and saltwater fisheries resources). These and other public benefits are lost when wetlands are drained or filled. These benefits require legal protection, just as public wildlife resources require state game laws to prevent improper exploitation of deer, fish, ducks or grouse.

Freshwater wetland benefits can be measured by experienced wetland scientists using observable parameters. For 238 numbered freshwater wetlands, NAI has recorded field observations on standardized data sheets and computed scores for ten beneficial functions. These computation methods are called models. To put the models in historical perspective, they were developed in 1981 jointly by IEP and NAI to meet the requirements of the Wisconsin Department of Natural Resources in reviewing and ranking over 100 small wetlands. For the New Hampshire study, the models use the same parameters as the original Wisconsin models, but computations have been modified somewhat to increase precision and to reflect the applicable wetland laws. The results of the model computations can be found in Tables 3 and 4 (Section 2.5). More detailed results, data sheets, and plant lists for each wetland are given in Section 4.0.

2.4 PLANNING WITH A WETLANDS MAP

Federal and state laws define the boundaries of wetland areas (for detailed definitions, see Section 3.1.1). NAI has provided each town with sepia maps, indicating and numbering wetland areas delineated not just by soil drainage class, but by four parameters observed in the field: plant community, soil characteristics, topographic features and hydrologic clues. These parameters are necessary to match the definition of freshwater wetlands found in NH CAR Chapter Wt 100, Part Wt 101.01, and defined by the US Fish and Wildlife Service. Areas found to fit these definitions are delineated by solid lines. Brooks with narrow linear wetlands borders were not delineated. All significant wetlands, and as many lesser wetlands as field time allowed, are labeled with codes of five characters: two letters and three digits. These have been evaluated in the field for the ten benefits. Dune areas are all assigned the letters "DU" and salt marshes are assigned "SM" for all six towns. All other letter combinations denote major watersheds in which the freshwater wetlands occur (Table 1). Smaller wetlands are also delineated by solid lines, but the five-character labels are replaced by swamp symbols.

The maps also show areas mapped by the Soil Conservation Service (SCS) as poorly drained soils, but not found to be wetlands. These are shown as cross-hatched areas, surrounded by dashed (not solid) lines. These areas do not share the list of public benefits known to derive from wetlands. However, if septic leachfields are to be sited, these areas should be carefully investigated with test pits and hand augering.

In summary, solid delineations show wetlands with potential benefits to offsite abutters which may require protection from project-related impacts; these areas are also unsuited to siting septic system leachfields. Dashed areas are unsuited to septic system leachfields, but in areas where water and sewerage are available, loss to project construction probably does not present a threat to public welfare.

Table 1. List of wetland letter codes

LETTER CODE	WATERSHED, RIVER OR OTHER LABEL
AW	Awcomin Swamp
BA	Bailey Brook
BE	Berry's Brook
BR	Brown's River
BW	Blackwater River
CA	Cain's Brook
DR	Drake's River
*DU	DUNE, not a watershed
HA	Hampton Falls River
HU	Hunt's Island Creek
LI	Little River
LU	Lucy Brook
ME	Meadow Pond
NC	New Castle
PB	Philbrick Brook
PH	Philbrick Pond
*SM	SALTMARSH, not a watershed
TA	Taylor River
WA	Wallis sands creeks
WN	Winnicut River
WT	Witch Creek

* not a freshwater wetland

When development is proposed, project review should begin with the use of these maps and data, followed by a high-intensity study to define the limits of jurisdiction and impact. The extrapolation of measurements from aerial photos introduces distortions which are inherent in the process. Tax maps are also drawn from aerial photo projections, and each produces distortions due to variations in the angle of view (Figure 2). If every landscape were flat and every photo taken by a level airplane no problems would arise. However, a straight map line passing over a hill will appear straight only from directly overhead (Figure 2, "B"). From one side it appears to curve one way, from the other it curves the other way. The distortion increases with the distance from the photo's center and with the height of the hill. This affects the scale of the photo reproductions and tax maps as well.

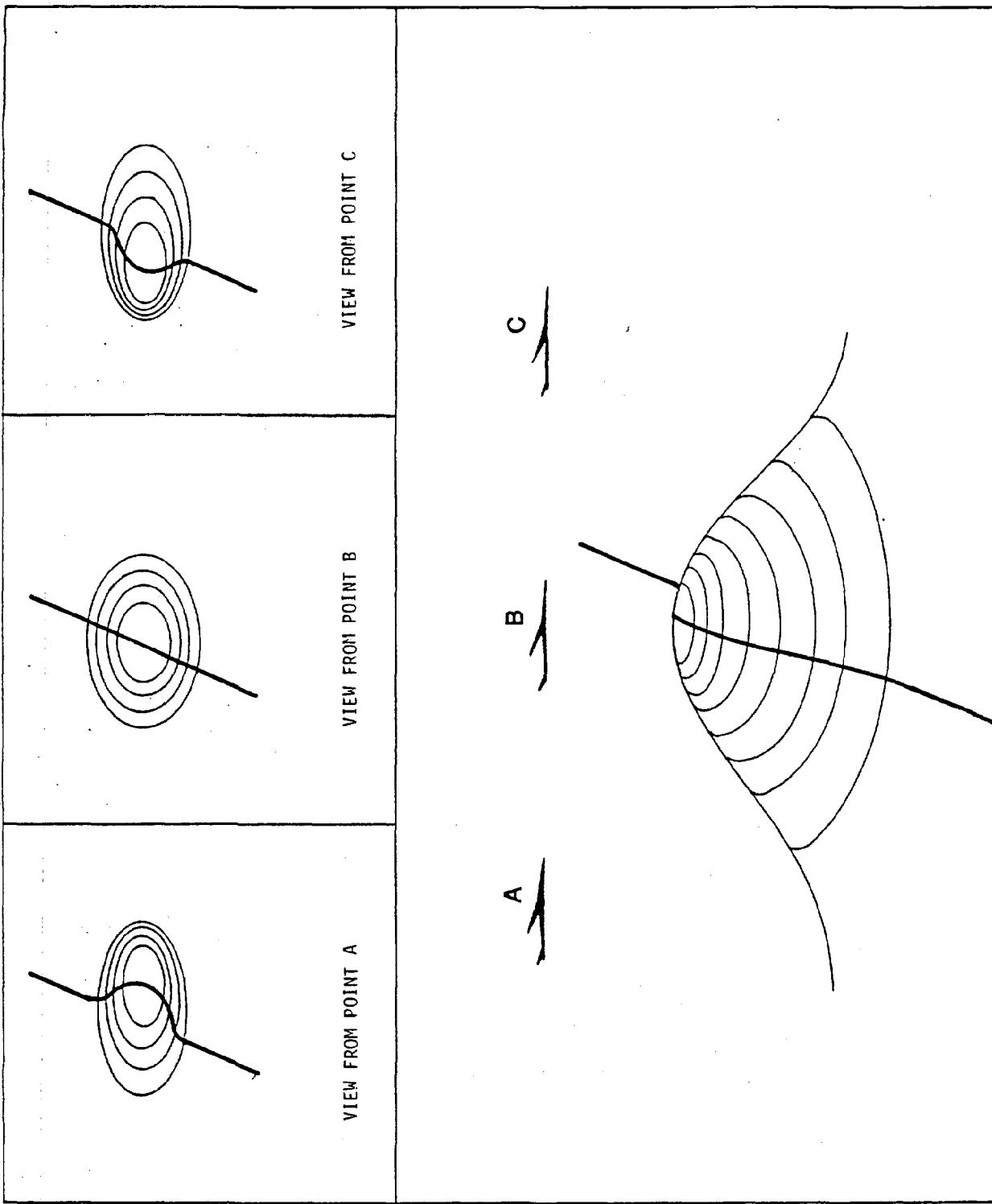


Figure 2. Illustration of distortion inherent in aerial photographs of uneven terrain.

To correctly locate property lines on the wetland maps, some estimate of accuracy should be made in each case, based on the flatness of the terrain and the nearness of the property to the map's center. The most accurate method is to identify the property bounds or location of proposed work relative to real objects visible on the wetland aerial photos, such as field edges, water courses, or stone walls. The wetlands are, of course, accurately delineated with respect to visible objects, so this procedure will eliminate the effects of distortion.

In reviewing projects where dredge or fill of more than 10,000 square feet (sf) of wetland is proposed, towns should require applicants to independently verify wetland boundaries. The project site should be flagged by a wetland scientist then surveyed onto the project topographic map by licensed surveyors. This is necessary to accurately determine the project boundaries with respect to each wetland boundary. Many New Hampshire towns now require developers of subdivisions and other major projects to present engineering surveys on recent topographic maps. For hilly terrains, 5 or 10 foot contour intervals may be sufficient, but for most of the towns on the New Hampshire seacoast, relief is very low and $2\frac{1}{2}$ foot intervals are more appropriate for locating wetland edges, slopes and buffer zones.

2.5 RESULTS OF FRESHWATER WETLANDS EVALUATION

NAI has completed evaluations and ranked 238 wetlands in this study to provide each town with ranking estimates of the public values specifically cited by state and federal laws (Table 2). These benefits are listed below in the order they are most commonly used, along with the abbreviation used throughout this report for each:

Table 2. List of benefits from freshwater wetlands

Model Abbreviation and Beneficial function

1. Biol Biological function, includes biological productivity and wildlife habitat (eg. duck breeding, muskrat, amphibian breeding, aquatic life support for fish, etc.).
 2. Hydro Hydrological Support, ability to maintain good quality downstream flow during dry periods of weather and consequently support downstream aquatic life.
 3. GrWat Ground Water, ability to protect ground water recharge (a value also attributable to permeable uplands).
 4. Flood Flood & Storm water storage, ability to store runoff and reduce or delay flood crests, preventing downstream damage.
 5. ShLi Shoreline protection from erosion by waves or runoff.
 6. WQual Water Quality maintenance, ability to renovate water quality by filtering, absorbing, or breaking down pollutants.
 7. Econ Economic values, primarily noting timber value
 8. Recr Recreational values, provide public with fish & game or passive recreation opportunities
 9. Aest Aesthetic values, degree of visual scenic appeal based on an assessment of both water and plant features.
 10. Educ Educational value, capacity to provide public with accessible wetland ecology, rare plants, or animals.
-
-

The scores from the models range from zero to 100, and are listed by model and wetland code (Table 3). Unfortunately, these scores do not provide an ideal means of understanding wetland values, because results from different models are grouped in different ways. For example, the results of the biological model (#1) range from 14 to 87, with an average of about 47, or about what one might expect. The shoreline protection model (#5) ranges from 0 (84 occurrences) to 66, with an average of about 14; not what one would expect. Some model results are grouped around one value due to regional similarities in wetland parameters; many wetlands score the same due to similar soils, slopes and hydrology. In the economic model (#7), 40% of the wetlands (94 occurrences) have a score of exactly 73.9. The point is that one would have to be extremely familiar with each model to understand the "raw" scores in Table 3.

One further level of analysis was therefore performed. For each model, the 238 wetlands were sorted by score from lowest to highest. The range was then broken into thirds. Each wetland in the lowest third was given an L for lowest; each wetland in the middle was assigned an M for medium; each in the highest third was assigned an H for high (Table 4). This ranks the wetlands in the study area against one another, instead of assigning them on an arbitrary scale, just as scholastic tests provide results in percentile, ranking students against one another. The ranking was performed separately on all ten sets of model scores. The results of this ranking are easier to interpret: of the wetlands studied, those scoring H in some benefit are of outstanding public value. Those with M are quite valuable. Those with L may be locally important, but are probably on a par with those numerous wetlands in the study area which were mapped but not numbered or evaluated.

Wetlands should not be given a single rating, lumping different wetland benefits. This would compromise the process of planning projects to avoid specific impacts. No two benefits are of exactly comparable local importance. To illustrate the role of local

importance, contrast the values of a ten acre forested wetland to two communities: one with many low-lying, similar wetlands; the second, with many dense urban areas, more vertical relief, well confined streams with no flooding problems, and very little wild open space. In the first location, the wildlife habitat value (1 Biol) would be of lower importance than the value for flood control (4 Flood). In the second, forested wetlands would be more valuable to the public for their wildlife habitat than for flood control. The models do not take into account the setting, and to average the two model results as if they mattered equally would be unsound planning.

New Hampshire law (NH CAR Chapter Wt 700) requires each town to map and list wetlands of unusual value. These wetlands are to be evaluated and a selection submitted for overall town approval to be designated as "Prime Wetlands". The state guidelines only require that wetlands must have "Very Poorly Drained" (VPD) soil and be of some high value. NAI has incorporated these guidelines into the model computations. Wetlands are given a "P" in Table 3 to indicate candidacy for prime status which meet two criteria:

1. SOILS: a wetland must either include an SCS mapping unit with overall VPD class, or have shown sufficient standing water, swamp or muck deposits on a site visit to fit the VPD class, with summertime water tables at or above the soil surface.

2. BENEFITS: a wetland must rank in the upper third of those sampled in at least one of the ten model scores (see Table 4, "H").

With these model results each town should establish a review procedure which follows the state guidelines. The following is a suggested checklist to act as a starting point:

1. Review the list and maps provided in this report for boundary and data sheet accuracy. All "SM" and "DU" areas are automatically candidates for prime protection. (There are 10 freshwater wetlands in the study area determined to have VPD soils which were not evaluated during this study. These are marked on the wetland maps with wetland codes preceded by an asterisk (*). They do not appear among the data sheets but should be investigated further for prime candidacy.)
2. For each wetland, add known cultural, historic and archaeological values not included in the NAI survey procedure. Reassess the prime candidacy.
3. Make copies from the sepia maps containing all candidates for prime status and highlight these wetlands and dune areas.
4. Present this combined mapping for public review and incorporate into a warrant for town meeting.
5. After approval, submit the requisite copies to the NHSWB and the coastal program as prime wetlands maps.
6. For review of projects, the town is required to notify the state of all proposed action in prime wetlands.

Table 3. Model scores for all freshwater wetlands

These wetland functional models were developed jointly by NAI and IEP in 1981 to meet the requirements of the state of Wisconsin in protecting ten benefits which accrue to the public from wetlands. They were published in 1981 as part of a site review for Exxon Minerals Co., Rhinelander, WI, and later by G. Hollands and D. Magee in a presentation to the Association of State Wetland Managers in 1985.

The models are run here in modified form; they include the parameters originally specified by the Wisconsin models, but have been altered to fulfill the requirements of wetlands laws in north central New England. Each model ranges from 0 to 100. It is important to understand that a result of zero does not indicate zero importance; only that the wetland is at the low end as compared to others in the region. Model values do not represent the actual value of a wetland in performing each function; they represent a numerical figure suitable for ranking wetlands one against another. A 'P' in the PRIME column indicates the wetland fulfills the New Hampshire definition of prime wetlands: Very Poorly Drained soil and a high (upper one third) ranking in the value of at least one benefit (see Table 4, 'H' for high).

WETLAND	Biol	Hydro	GrWat	Flood	ShLi*	WQual	Econ	Recr*	Aest*	Educ*	PRIME
AW002	51.9	56.5	41.5	62.7	0.0	50.0	73.9	36.9	39.1	46.0	
AW003	65.1	68.4	66.0	73.5	14.4	55.8	91.3	54.7	47.8	71.4	
AW004	48.8	67.1	41.5	62.7	31.0	50.0	73.9	36.9	39.1	46.0	
BA001	72.0	75.0	39.6	53.9	20.6	62.7	65.2	54.7	82.6	76.1	P
BA002	51.1	63.1	43.3	61.7	17.5	58.8	73.9	50.6	39.1	53.9	
BA003	68.2	75.0	45.2	56.8	51.7	56.8	73.9	45.2	59.4	63.4	P
BA004	47.2	61.8	58.4	72.5	16.5	52.9	73.9	36.9	43.4	50.7	P
BA005	72.8	82.8	81.1	66.6	48.2	64.7	91.3	52.0	52.1	76.1	P
BA006	45.7	64.4	62.2	67.6	14.4	55.8	73.9	36.9	34.7	46.0	P
BA007	34.8	52.6	49.0	72.5	0.0	50.9	56.5	21.9	34.7	41.2	
BA008	54.2	65.7	64.1	68.6	14.4	57.8	73.9	41.0	47.8	63.4	
BA010	66.6	68.4	75.4	70.5	16.5	59.8	91.3	52.0	52.1	76.1	P
BE004	47.2	51.3	37.7	64.7	19.6	54.9	39.1	21.9	36.2	46.0	P
BE005	36.4	9.2	50.9	65.6	0.0	57.8	65.2	35.6	55.0	42.8	P
BE007	27.9	55.2	24.5	44.1	2.0	29.4	13.0	43.8	69.5	33.3	P
BE008	39.5	55.2	33.9	64.7	0.0	48.0	73.9	36.9	34.7	41.2	
BE012	71.3	72.3	49.0	69.6	17.5	77.4	73.9	45.2	49.2	76.1	P
BE013	26.3	47.3	33.9	60.7	0.0	45.0	56.5	21.9	34.7	33.3	
BE014	32.5	63.1	54.7	72.5	16.5	55.8	73.9	32.8	30.4	28.5	P
BE015	54.2	68.4	60.3	61.7	17.5	54.9	91.3	52.0	52.1	76.1	P
BE016	56.5	68.4	67.9	68.6	0.0	64.7	91.3	52.0	52.1	76.1	P
BE017	43.4	63.1	35.8	64.7	19.6	55.8	73.9	36.9	39.1	46.0	P
BE018	45.7	53.9	37.7	58.8	17.5	55.8	73.9	36.9	43.4	50.7	P
BR002	27.9	51.3	69.8	63.7	0.0	47.0	73.9	32.8	34.7	33.3	
BW001	40.3	57.8	60.3	63.7	0.0	55.8	73.9	36.9	34.7	41.2	
BW002	44.9	44.7	54.7	55.8	14.4	40.1	56.5	26.0	39.1	46.0	P
BW003	33.3	51.3	69.8	67.6	0.0	50.0	73.9	32.8	30.4	28.5	
BW004	44.9	71.0	77.3	65.6	16.5	65.6	73.9	36.9	34.7	41.2	
BW005	29.4	51.3	54.7	73.5	0.0	50.0	73.9	32.8	34.7	33.3	
BW006	27.9	51.3	54.7	69.6	0.0	47.0	73.9	32.8	34.7	33.3	

* Model modified from Wisconsin original

(Table 3. Model scores for all freshwater wetlands, cont'd)

WETLAND	Biol	Hydro	GrWat	Flood	ShLi*	WQual	Econ	Recr*	Aest*	Educ*PRIME	
TA067	40.3	64.4	39.6	60.7	15.5	56.8	73.9	36.9	34.7	41.2	P
TA068	52.7	59.2	50.9	68.6	0.0	67.6	56.5	30.1	31.8	41.2	P
TA070	30.2	60.5	39.6	65.6	0.0	54.9	73.9	32.8	34.7	33.3	
TA077	82.9	68.4	37.7	57.8	18.6	62.7	65.2	52.0	55.0	71.4	P
TA078	86.0	78.9	56.6	63.7	37.9	70.5	65.2	43.8	50.7	66.6	P
TA079	76.7	69.7	39.6	60.7	31.0	64.7	56.5	42.4	40.5	58.7	P
TA080	68.9	63.1	54.7	62.7	17.5	60.7	56.5	42.4	31.8	53.9	P
TA082	44.9	56.5	33.9	62.7	0.0	49.0	73.9	36.9	39.1	46.0	
TA084	72.8	73.6	49.0	68.6	17.5	72.5	73.9	45.2	36.2	66.6	P
TA085	62.0	27.6	32.0	62.7	17.5	56.8	56.5	31.5	40.5	58.7	P
TA088	65.1	56.5	54.7	62.7	19.6	57.8	56.5	34.2	40.5	66.6	P
TA090	51.9	59.2	37.7	64.7	0.0	60.7	56.5	30.1	36.2	46.0	P
TA092	86.8	81.5	73.5	64.7	37.9	74.5	82.6	54.7	50.7	66.6	P
TA093	60.4	59.2	50.9	60.7	0.0	64.7	65.2	43.8	46.3	61.9	P
TA094	76.7	64.4	79.2	60.7	8.2	66.6	82.6	54.7	59.4	71.4	P
TA096	47.2	51.3	30.1	65.6	0.0	49.0	73.9	36.9	43.4	50.7	
TA097	39.5	61.8	33.9	60.7	17.5	49.0	60.8	31.5	26.0	28.5	
WA002	28.6	51.3	28.3	58.8	0.0	45.0	56.5	21.9	34.7	33.3	
WA003	36.4	51.3	52.8	64.7	0.0	46.0	56.5	21.9	39.1	41.2	P
WA004	31.7	51.3	49.0	63.7	0.0	47.0	73.9	32.8	34.7	33.3	
WA012	65.8	73.6	66.0	65.6	28.9	59.8	91.3	52.0	52.1	76.1	P
WA016	44.1	61.8	58.4	68.6	14.4	50.0	73.9	36.9	34.7	41.2	P
WA019	37.9	59.2	45.2	58.8	0.0	57.8	73.9	32.8	34.7	33.3	
WA021	50.3	61.8	41.5	62.7	15.5	50.0	73.9	36.9	43.4	58.7	
WA025	68.2	75.0	64.1	70.5	17.5	68.6	91.3	52.0	47.8	68.2	P
WA028	48.8	64.4	71.6	57.8	14.4	58.8	73.9	36.9	47.8	55.5	P
WN101	77.5	81.5	45.2	70.5	65.5	71.5	73.9	53.4	49.2	76.1	P
WN102	51.1	68.4	64.1	58.8	48.2	49.0	56.5	26.0	39.1	46.0	P
WN103	62.0	9.2	66.0	59.8	14.4	46.0	56.5	27.3	47.8	71.4	P
WN104	52.7	51.3	37.7	58.8	17.5	44.1	56.5	26.0	52.1	55.5	P
WN105	38.7	9.2	45.2	59.8	17.5	46.0	56.5	19.1	39.1	38.0	P
WN106	74.4	63.1	39.6	52.9	58.6	56.8	56.5	34.2	49.2	68.2	
WN107	31.0	46.0	24.5	63.7	0.0	45.0	56.5	21.9	34.7	33.3	
WN108	59.6	60.5	28.3	53.9	58.6	49.0	39.1	23.2	40.5	58.7	P
WN110	38.7	60.5	35.8	46.0	17.2	39.2	17.3	30.1	31.8	20.6	
WN111	55.8	51.3	24.5	50.0	9.3	47.0	47.8	32.8	50.7	66.6	P
WN112	61.2	55.2	43.3	51.9	11.3	60.7	47.8	32.8	55.0	74.6	P
WN113	49.6	50.0	56.6	59.8	14.4	50.0	39.1	19.1	36.2	46.0	P
WN114	32.5	57.8	43.3	48.0	5.1	42.1	13.0	39.7	72.4	46.0	P
WN115	45.7	14.4	66.0	57.8	22.7	46.0	39.1	20.5	65.2	79.3	P
WN116	50.3	7.8	64.1	64.7	16.5	54.9	26.0	10.9	27.5	33.3	P
WN117	21.7	13.1	64.1	50.9	4.1	35.2	0.0	31.5	59.4	12.6	P
WN119	55.0	80.2	49.0	57.8	35.1	62.7	73.9	41.0	34.7	53.9	P
WN120	66.6	71.0	58.4	71.5	19.6	73.5	73.9	45.2	44.9	76.1	P

* Model modified from Wisconsin original

(Table 3. Model scores for all freshwater wetlands, cont'd)

WETLAND	Biol	Hydro	GrWat	Flood	ShLi*	WQual	Econ	Recr*	Aest*	Educ*PRIME
WN121	77.5	75.0	50.9	66.6	65.5	67.6	56.5	42.4	44.9	71.4 P
WN123	70.5	82.8	60.3	66.6	58.6	64.7	91.3	60.2	52.1	76.1 P
WN124	41.0	9.2	66.0	57.8	12.4	50.9	26.0	10.9	23.1	20.6 P
WN125	53.4	56.5	37.7	49.0	24.8	43.1	34.7	46.5	69.5	53.9 P
WN126	63.5	69.7	39.6	61.7	65.5	55.8	60.8	35.6	26.0	41.2 P
WN127	44.9	51.3	24.5	53.9	11.3	50.0	47.8	28.7	46.3	46.0 P
WN128	61.2	73.6	47.1	60.7	17.5	60.7	73.9	41.0	43.4	58.7 P
WN129	56.5	75.0	35.8	67.6	39.3	60.7	73.9	41.0	43.4	66.6 P
WN130	41.0	56.5	32.0	66.6	17.5	50.9	73.9	36.9	34.7	41.2 P
WN132	43.4	59.2	37.7	66.6	0.0	55.8	73.9	36.9	39.1	46.0 P
WN134	49.6	50.0	30.1	51.9	13.4	39.2	56.5	26.0	39.1	46.0
WN135	20.1	2.6	30.1	55.8	0.0	39.2	56.5	19.1	34.7	33.3
WT002	31.7	56.5	35.8	62.7	0.0	50.9	73.9	32.8	34.7	33.3
WT003	37.2	64.4	37.7	62.7	19.6	59.8	73.9	32.8	34.7	33.3 P
WT004	27.1	55.2	28.3	63.7	0.0	49.0	73.9	32.8	30.4	28.5 P
WT005	56.5	43.4	47.1	63.7	10.3	48.0	47.8	41.0	55.0	58.7 P

Biol Biological function, includes productivity and wildlife habitat
 Hydro Hydrological support, ability to maintain flow during dry periods
 GrWat Ground-Water, ability to provide ground water recharge
 Flood Flood & storm water storage during heavy runoff periods
 ShoL* Shore Line protection from erosion
 WQual Water Quality maintenance, ability to renovate water quality
 Econ Economic values, primarily timber or hay
 Recr* Recreational values, public access to fish, game or nature
 Aest* Aesthetic values, degree of scenic appeal
 Educ* Educational value, provide public with accessible wetland ecology

* Model modified from Wisconsin original

Table 4. Wetland model ranking by thirds.

Model Wetland	1 Biol	2 Hydro	3 GrWat	4 Flood	5 ShLi*	6 WQual	7 Econ	8 Recr*	9 Aest*	10 Educ*
AW002	M	M	M	M	L	M	H	M	M	M
AW003	H	H	H	H	M	M	H	H	H	H
AW004	M	H	M	M	H	M	H	M	M	M
BA001	H	H	M	L	H	H	M	H	H	H
BA002	M	M	M	M	M	H	H	H	M	H
BA003	H	H	M	L	H	M	H	H	H	H
BA004	M	M	H	H	M	M	H	M	H	M
BA005	H	H	H	H	H	H	H	H	H	H
BA006	M	H	H	H	M	M	H	M	L	M
BA007	L	M	M	H	L	M	M	L	L	M
BA008	H	H	H	H	M	H	H	H	H	H
BA010	H	H	H	H	M	H	H	H	H	H
BE004	M	L	M	H	H	M	L	L	M	M
BE005	L	L	M	H	L	H	M	M	H	M
BE007	L	M	L	L	M	L	L	H	H	L
BE008	M	M	L	H	L	L	H	M	L	M
BE012	H	H	M	H	M	H	H	H	H	H
BE013	L	L	L	M	L	L	M	L	L	L
BE014	L	M	H	H	M	M	H	M	L	L
BE015	H	H	H	M	M	M	H	H	H	H
BE016	H	H	H	H	L	H	H	H	H	H
BE017	M	M	L	H	H	H	M	M	H	M
BE018	M	M	M	L	M	M	H	M	H	M
BR002	L	L	H	M	L	M	L	H	M	L
BW001	M	M	H	M	L	M	H	M	L	M
BW002	M	L	H	L	M	L	M	L	M	L
BW003	L	L	H	H	L	M	H	M	L	L
BW004	M	H	H	H	M	H	H	H	M	L
BW005	L	L	H	H	H	L	M	H	M	L
BW006	L	L	H	H	H	L	L	H	M	L
CA003	M	H	M	L	M	M	H	M	L	M
CA004	H	H	H	H	H	M	H	H	H	H
CA005	H	H	H	H	L	M	M	H	H	H
CA015	L	L	H	M	M	L	H	M	L	L
CA016	L	L	L	M	M	L	H	M	L	L
CA020	L	L	H	L	L	L	L	M	L	L
CA021	M	M	H	H	M	H	M	M	L	L
CA024	H	H	H	M	H	H	M	H	H	H
CA025	L	M	H	H	H	L	L	H	M	L
DR001	H	H	L	M	H	H	H	H	H	H
DR002	L	L	H	L	L	L	L	L	M	L
DR003	M	M	H	H	M	M	H	M	L	M
DR004	M	M	H	H	L	H	H	M	L	M

H Model score in upper third of wetlands rated.

M Model score in middle third of wetlands rated.

L Model score in lower third of wetlands rated.

* Model modified from Wisconsin original

Table 4. Wetland model ranking by thirds.

Model Wetland	1 Biol	2 Hydro	3 GrWat	4 Flood	5 ShLi*	6 WQual	7 Econ	8 Recr*	9 Aest*	10 Educ*
DR005	M	M	H	H	L	M	H	M	M	M
DR006	M	L	H	H	L	M	H	M	M	M
DR007	L	L	H	M	L	L	H	M	L	L
DR010	H	M	H	H	M	M	L	M	H	H
DR011	L	L	H	H	L	L	M	L	L	L
DR012	H	M	H	H	M	M	H	H	H	H
DR013	M	M	H	M	M	L	H	M	M	M
DR014	L	L	L	L	L	L	M	L	L	L
DR015	L	M	L	H	H	L	M	L	L	L
DR016	L	L	L	L	L	L	H	M	M	L
DR018	H	H	M	L	H	M	H	H	H	H
DR019	M	M	M	M	M	H	M	H	H	H
DR022	L	M	L	L	M	L	L	L	L	L
DR023	L	L	L	L	M	L	L	L	L	L
DR026	L	L	H	L	L	L	H	M	L	L
DR027	M	M	H	L	H	L	H	H	H	M
HA002	L	L	M	L	M	L	M	L	L	L
HA003	L	L	L	M	L	L	H	M	L	L
HA004	H	H	M	M	H	M	H	H	H	H
HA005	L	L	M	L	M	L	L	H	H	L
HA006	M	L	M	L	M	M	L	L	H	M
HA007	M	M	M	L	M	M	L	H	H	M
HA008	L	M	M	M	L	L	L	H	M	L
HA009	H	L	H	M	M	M	L	L	M	H
HA010	L	L	H	H	H	L	L	M	L	L
HA011	H	H	H	H	H	M	H	H	M	H
HA015	L	L	M	L	L	L	L	L	M	L
HA017	M	M	M	L	H	M	M	L	M	H
HA018	H	H	H	H	H	M	H	H	H	H
HA021	L	M	L	L	M	L	H	M	M	L
HA024	M	M	H	H	H	L	H	M	M	M
HA025	M	L	L	H	L	L	M	M	L	M
HA028	H	H	H	H	H	M	H	H	H	H
HA030	L	M	L	M	M	L	L	H	M	L
HA032	H	H	M	M	H	H	M	H	H	H
HA034	M	M	M	M	L	H	H	M	M	M
HU003	L	M	H	L	L	H	L	L	L	L
HU004	L	M	L	L	M	M	M	M	L	L
HU005	L	L	H	M	L	L	L	H	M	L
HU006	L	M	H	L	L	M	H	H	M	L
LI003	M	M	M	H	L	M	H	H	M	M
LI004	M	L	M	H	L	M	L	L	M	M
LI005	H	H	M	M	H	H	M	M	M	M

H Model score in upper third of wetlands rated.

M Model score in middle third of wetlands rated.

L Model score in lower third of wetlands rated.

* Model modified from Wisconsin original

Table 4. Wetland model ranking by thirds.

Model Wetland	1 Biol	2 Hydro	3 GrWat	4 Flood	5 ShLi*	6 WQual	7 Econ	8 Recr*	9 Aest*	10 Educ*
LI006	H	M	H	L	M	L	L	H	H	H
LI007	M	H	M	H	L	H	H	H	M	M
LI008	M	M	H	H	M	M	H	M	L	M
LI009	L	M	H	H	L	L	H	M	L	L
LI010	L	L	L	M	L	L	M	L	L	L
LI011	H	H	H	L	H	H	M	H	H	H
LI012	M	M	M	L	M	M	M	L	M	M
LI013	M	H	M	H	M	H	H	H	H	M
LI014	L	M	H	L	L	M	H	M	L	L
LI015	M	H	M	H	H	H	H	M	L	M
LI016	M	H	H	M	M	H	M	L	L	L
LI017	H	M	H	H	H	H	M	M	M	H
LI018	H	H	L	M	H	H	L	L	H	H
LI019	H	H	H	H	H	H	H	H	M	H
LI020	M	M	M	L	L	M	H	M	L	M
LI021	H	H	M	M	M	H	M	M	L	M
LI022	M	L	L	L	M	M	M	L	H	M
LI023	M	L	L	L	M	L	L	M	H	M
LI024	H	H	M	L	H	H	H	H	H	H
LI025	L	L	L	L	L	L	L	L	L	L
LI026	M	M	L	H	M	M	L	L	H	H
LI027	L	L	M	L	L	L	M	L	M	L
LI028	L	L	L	L	L	L	M	L	L	L
LI029	H	M	L	H	M	M	L	L	M	H
LI030	H	M	M	L	H	H	M	M	M	H
LI031	M	L	L	H	L	M	M	L	L	M
LI032	H	H	M	H	M	H	H	H	H	H
LI036	H	H	M	L	H	H	M	H	H	H
LI037	M	L	L	M	H	H	M	H	M	L
LU101	L	H	H	H	H	L	H	H	L	L
ME002	M	H	M	M	H	H	H	H	M	H
ME003	M	L	L	M	M	L	L	H	L	M
ME004	L	L	L	M	M	L	L	H	L	L
ME005	M	H	M	M	M	H	H	H	L	M
ME006	M	M	M	H	H	H	H	M	H	M
ME008	H	H	M	L	H	H	H	H	M	H
ME011	H	H	M	M	H	H	H	H	H	H
ME015	L	L	L	L	L	L	M	M	L	L
ME016	L	M	L	M	H	L	H	M	M	M
NC002	L	L	L	H	L	M	L	L	H	M
NC003	L	L	L	L	L	L	L	L	H	M
NC004	L	L	L	M	M	M	L	L	H	M
NC005	L	L	M	L	M	L	L	H	H	L

H Model score in upper third of wetlands rated.

M Model score in middle third of wetlands rated.

L Model score in lower third of wetlands rated.

* Model modified from Wisconsin original

Table 4. Wetland model ranking by thirds.

Model Wetland	1 Biol	2 Hydro	3 GrWat	4 Flood	5 ShLi*	6 WQual	7 Econ	8 Recr*	9 Aest*	10 Educ*
NC006	L	L	L	H	L	M	L	L	H	M
NC007	H	M	M	H	L	H	M	M	M	H
NC008	L	L	L	L	M	L	L	H	H	L
PB009	H	H	H	H	M	H	H	H	H	H
PB012	M	H	H	H	M	M	H	H	M	H
PB014	L	L	H	L	L	L	M	L	L	L
PH003	L	M	M	L	L	M	H	M	L	L
PH004	L	M	H	H	L	M	H	M	L	L
PH005	M	M	M	L	M	M	H	M	M	M
PH006	L	L	L	L	L	L	M	L	H	L
PH007	M	L	L	M	L	L	H	M	M	M
TA002	L	L	L	L	L	L	H	H	L	L
TA004	H	H	H	H	M	H	H	H	H	H
TA007	L	L	L	L	L	M	L	L	L	L
TA008	L	L	L	L	L	L	M	L	L	L
TA011	H	M	L	H	L	H	M	M	M	H
TA012	M	L	L	M	H	M	L	L	L	L
TA015	H	H	M	L	H	L	L	H	M	H
TA017	H	M	L	L	M	H	L	M	M	M
TA018	H	L	L	L	M	M	L	M	H	H
TA019	L	M	L	H	L	L	H	M	M	L
TA020	M	M	L	M	M	L	M	L	M	M
TA023	L	L	L	M	L	L	M	L	L	L
TA025	L	L	L	L	M	L	M	L	L	L
TA026	L	L	H	L	L	L	M	L	L	L
TA027	M	H	M	H	H	H	M	L	L	M
TA030	H	H	H	H	H	H	M	H	H	H
TA033	L	M	L	M	M	L	H	M	L	H
TA034	H	H	M	M	M	M	H	H	M	H
TA036	H	H	M	M	H	H	M	M	M	H
TA037	M	M	M	H	L	H	H	M	M	H
TA039	M	M	L	M	H	H	L	H	M	H
TA040	M	M	L	H	M	M	H	H	M	H
TA042	M	H	M	H	H	M	H	H	M	H
TA045	H	H	H	H	H	H	H	H	H	H
TA046	L	L	L	L	L	L	M	L	L	L
TA047	M	L	M	H	L	L	M	L	M	M
TA048	L	M	L	L	H	H	L	L	H	L
TA049	M	H	M	M	H	M	H	M	M	M
TA050	M	L	L	L	L	M	M	L	H	H
TA051	M	L	L	M	L	M	L	L	H	M
TA052	L	L	M	H	L	M	M	L	L	L
TA054	M	M	H	M	L	M	H	M	L	M

H Model score in upper third of wetlands rated.

M Model score in middle third of wetlands rated.

L Model score in lower third of wetlands rated.

* Model modified from Wisconsin original

Table 4. Wetland model ranking by thirds.

Model Wetland	1 Biol	2 Hydro	3 GrWat	4 Flood	5 ShLi*	6 WQual	7 Econ	8 Recr*	9 Aest*	10 Educ*
TA055	M	H	L	H	M	H	H	M	M	M
TA056	H	H	M	L	M	H	M	H	H	H
TA057	H	H	H	H	H	H	H	H	H	H
TA058	H	H	M	H	M	H	M	H	H	H
TA060	H	H	H	H	H	H	H	H	H	H
TA064	M	M	M	H	M	M	H	M	L	M
TA067	M	H	M	M	M	M	H	M	L	M
TA068	M	M	M	H	L	H	M	L	L	M
TA070	L	M	M	H	L	M	H	M	L	L
TA077	H	H	M	L	H	H	M	H	H	H
TA078	H	H	H	M	H	H	M	H	H	H
TA079	H	H	M	M	H	H	M	H	M	H
TA080	H	M	H	M	M	H	M	H	L	H
TA082	M	M	L	M	L	L	H	M	M	M
TA084	H	H	M	H	M	H	H	H	M	H
TA085	H	L	L	M	M	M	H	L	M	H
TA088	H	M	H	M	H	H	M	M	M	H
TA090	M	M	M	H	L	H	M	L	M	M
TA092	H	H	H	H	H	H	H	H	H	H
TA093	H	M	M	M	L	H	M	H	H	H
TA094	H	H	H	M	M	H	H	H	H	H
TA096	M	L	L	H	L	L	H	M	H	M
TA097	M	M	L	M	M	L	M	L	L	L
WA002	L	L	L	L	L	L	M	L	L	L
WA003	L	L	H	H	L	L	M	L	M	M
WA004	L	L	M	M	L	L	H	M	L	L
WA012	H	H	H	H	H	H	H	H	H	H
WA016	M	M	H	H	M	M	H	M	L	M
WA019	L	M	M	L	L	H	H	M	L	L
WA021	M	M	M	M	M	M	H	M	H	H
WA025	H	H	H	H	H	M	H	H	H	H
WA028	M	H	H	H	L	M	H	M	H	H
WN101	H	H	H	M	H	H	H	H	H	H
WN102	M	H	H	H	L	H	L	M	L	M
WN103	H	L	H	L	M	L	M	L	L	H
WN104	M	L	M	L	M	M	L	M	L	H
WN105	L	L	M	L	M	L	M	M	L	L
WN106	H	M	M	L	H	M	M	M	H	H
WN107	L	L	L	M	L	L	M	M	L	L
WN108	H	M	L	L	H	L	L	L	M	H
WN110	L	M	L	L	M	L	L	L	L	L
WN111	H	L	L	L	M	L	L	M	H	H
WN112	H	M	M	L	M	H	L	M	H	H

H Model score in upper third of wetlands rated.

M Model score in middle third of wetlands rated.

L Model score in lower third of wetlands rated.

* Model modified from Wisconsin original

Table 4. Wetland model ranking by thirds.

Model Wetland	1 Biol	2 Hydro	3 GrWat	4 Flood	5 ShLi*	6 WQual	7 Econ	8 Recr*	9 Aest*	10 Educ*
WN113	M	L	H	L	M	M	L	L	M	M
WN114	L	M	M	L	M	L	L	H	H	M
WN115	M	L	H	L	H	L	L	L	H	H
WN116	M	L	H	H	M	M	L	L	L	L
WN117	L	L	H	L	M	L	L	L	H	L
WN119	H	H	M	L	H	H	H	H	L	H
WN120	H	H	H	H	H	H	H	H	H	H
WN121	H	H	M	H	H	H	M	H	H	H
WN123	H	H	H	H	H	H	H	H	H	H
WN124	M	L	H	L	M	M	L	L	L	L
WN125	H	M	M	L	H	L	L	H	H	H
WN126	H	H	M	M	H	M	M	M	L	M
WN127	M	L	L	L	M	M	L	L	H	M
WN128	H	H	M	M	M	H	H	H	H	H
WN129	H	H	L	H	H	H	H	H	H	H
WN130	M	M	L	H	M	M	H	M	L	M
WN132	M	M	M	H	L	M	H	M	M	M
WN134	M	L	L	L	M	L	M	L	M	M
WN135	L	L	L	L	L	L	M	L	L	L
WT002	L	M	L	M	L	M	H	M	L	L
WT003	L	H	M	M	H	H	H	M	L	L
WT004	L	M	L	M	L	L	H	M	L	L
WT005	H	L	M	M	M	L	L	H	H	H

H Model score in upper third of wetlands rated.

M Model score in middle third of wetlands rated.

L Model score in lower third of wetlands rated.

* Model modified from Wisconsin original

2.6 REVIEWING A PROPOSED PROJECT; AN EXAMPLE

A hypothetical subdivision is proposed for cluster condominiums on 50 acres bordering on the hypothetical "Sally Brook". Under the town zoning, single family standard lots would cut the property into long thin lots with little frontage, and with rears bordering on the wetland and brook. The developer's proposal would place most of the buildings around some old orchards and abandoned hayfields, leaving dedicated open land along the wetlands and brook, with nature trails connected to town conservation land. The proposal seems attractive from the standpoint of land planning and wetlands protection, but there are two logistic problems: a great deal of pressure to deny the project has been placed on the town planning board since the location of the proposed buildings would be visible on the horizon to many old (and some wealthy) residents, and the access road would have to cross the wetland. The fill for the wetland crossing would require a state wetlands board (NHSWB) permit but would impact less than one acre of wetlands, therefore not requiring an individual federal dredge & fill permit from the COE under §404-c.

Using a road map, the town Conservation Commission locates the proposed subdivision on the wetlands aerial photo map No 5-10. The hypothetical wetland in question has the code number "SA101" and is fairly large. The CC members look in the previous section Table 3:

WETLAND MODEL ABBREVIATION:

CODE: Biol Hydro GrWat Flood ShLi* WQual Econ Recr* Aest* Educ*PRIME

SA101	65.1	61.8	28.3	65.6	17.5	56.8	56.5	42.4	40.5	66.6
-------	------	------	------	------	------	------	------	------	------	------

In table 4 they see:

Wetland	Biol	Hydro	GrWat	Flood	ShLi*	WQual	Econ	Recr*	Aest*	Educ*
---------	------	-------	-------	-------	-------	-------	------	-------	-------	-------

SA101	H	M	L	H	M	M	M	H	M	H
-------	---	---	---	---	---	---	---	---	---	---

They note high results in the biological, flood control, recreational and education models. Most of the others are medium in rank, but less critical.

Next the CC checks with the NH Fish and Game Department and determines that Sally Brook and the ensuing watershed are important brook trout fisheries for the coast. Three model results are important to support this fishery. The biological value (Biol: H) shows high biological productivity as well as wildlife habitat. The hydrologic support score (Hydro: M) shows that the wetland contributes somewhat to downstream base flow during the time of year when trout are most sensitive to heat stress. Any pollutants (heavy metals, nutrients, some salts) present in runoff will be significantly attenuated by the wetland (WQual: M), protecting the water quality of the fish habitat. The wetland also ranks in the upper third for recreational and educational values. These facts are important in weighing probable impacts, and should be presented as factual findings to the NHSWB and the COE as a routine part of the town's review process. Suggestions for appropriate orders of conditions might include: preserve vegetated setbacks from this brook and wetland, shading along the bank to prevent solar heating, and protection from erosion and sedimentation, both during construction and after project completion.

The site soils will determine how critical the erosion problem will become. If there are silts and clays present (especially from glacial lake or marine sediments) the soils will be easily erodable. Work on steeply sloped areas must be minimized, with the wetlands protected by silt curtains or at least hay bales, trenched, staked and maintained, until revegetation is well advanced.

Wildlife habitat can be somewhat protected from development by the preservation of densely vegetated strips, connecting preserved wild areas, for wildlife to use as travel corridors. More detailed ecological information about each wetland is described and summarized in tables in Appendix Section 4.0; a sample for our hypothetical wetland, SA101, is shown next (Table 5). This example provides a sample of the representative species lists included in this study. The second page can also be used for the soils information (left column, look up soils numbers in Rockingham County Soils Survey, SCS, 1986).

Table 5. Sample hypothetical ecological summary

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Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y
 Location: (Photo 5-10) Jct Bridal Path and Route 1, HA
 SA101 Field Date: 04/01/86 Report Date: 06/23/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	1	0.50	T	3
Pinus strobus	White pine	2	0.18	T	3
Quercus velutina	Black oak	1	0.00	T	4
Ulmus americana	American elm	1	0.82	T	1
Quercus bicolor	Swamp white oak	1	1.00	T	4
Ulmus americana	American elm	2	0.82	S	1
Rhamnus frangula	Europ. buckthorn	4	0.50	S	0
Lyonia ligustrina	Maleberry	1	1.00	S	0
Acer rubrum	Red maple	12	0.50	S	3
Ilex verticillata	Winterberry	15	1.00	S	1
Rosa palustris	Marsh rose	6	1.00	S	1
Viburnum recognitum	Northern arrowwood	4	0.82	S	1
Alnus rugosa	Speckled alder	35	1.00	S	1
Cornus amomum	Silky dogwood	5	0.82	S	3
Spiraea tomentosa	Steeplebush	2	0.50	S	0
Salix sp.	Willow	3	0.82	S	1
Pinus strobus	White pine	2	0.18	S	3
Vaccinium corymbosum	Highbush blueberry	1	0.82	S	2
Spiraea latifolia	Meadowsweet	8	0.50	S	0
Vaccinium macrocarpon	Large cranberry	1	1.00	S	2
Carex sp.	Sedge	5	1.00	H	3
Calamagrostis canadensis	Bluejoint grass	1	1.00	H	0
Aster sp.	Asters	2		H	0
Onoclea sensibilis	Sensitive fern	4	1.00	H	0
Typha latifolia	Cattail	5	1.00	H	1
Lythrum salicaria	Purple loosestrife	1	1.00	H	0
Scirpus cyperinus	Woolgrass	2	1.00	H	3
Juncus effusus	Soft rush	6	1.00	H	0
Poaceae	Grasses	12		H	1
Iris versicolor	Blue flag	1	1.00	H	0

WSI: 0.843 WVF: 0.311 BOG: 0.006 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.13 BUSHY: 0.48 COMPACT: 0.07
 MARSH SBCL: ROBUST: 0.04 BROADL: 0.02 NARROW: 0.17 FLOATING: 0.00
 SUBTYPES: CNPRUW

WATERSHED: Sally Brook TYPE: Shrub Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	65.1	:*****:**** :	6 WQual	56.8	:*****:*** :
2 Hydro	61.8	:*****:*** :	7 Econ	56.5	:**** :
3 GrWat	28.3	:* : :	8 Recr	42.4	:*****:*** :
4 Flood	65.6	:*****:*** :	9 Aest	40.5	:*****:*
5 ShoLi	17.5	:*****:*** :	10 Educ	66.6	:*****:**** :

AVERAGE DECILE OF TEN MODELS: 6.60

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: SA101	PLACE: (Photo 5-10) Jct Bridal Path and Route 1, HA
FL DATE : 04/04/86	GS&ABUN 20: VACMAC 1 Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB 1	GS&ABUN 21: CAREX 5 wetl JUXtapos (HML): M
GS&ABUN 2 : PINSTR 2	GS&ABUN 22: CALCAN 1 w. level FLUCtu (Hi
GS&ABUN 3 : QUEVEL 1	GS&ABUN 23: ASTER 2 Lo Vernal pool): L
GS&ABUN 4 : ULMAME 1	GS&ABUN 24: ONOSEN 4 Veg.Spec. Richness: H
GS&ABUN 5 : QUEBIC 1	GS&ABUN 25: TYPLAT 5
GS&ABUN 6 : uLMAME 2	GS&ABUN 26: LYTSAL 1 ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : RHAFRA 4	GS&ABUN 27: SCICYP 2 WSI: 0.843
GS&ABUN 8 : LYOLIG 1	GS&ABUN 28: JUNEFF 6 WFV: 0.312
GS&ABUN 9 : aCERUB12	GS&ABUN 29: POa 12 Perc. Wild. Food: M
GS&ABUN 10: ILEVER15	GS&ABUN 30: IRIVER 1 NO. of species: 30
GS&ABUN 11: ROSPAL 6	INvestigator : TLP Prime :
GS&ABUN 12: VIBREC 4	Dom Wetl Class (0-11): 6 Aesthetic: 0.089
GS&ABUN 13: ALNRUG35	SPec ELEM (ADEFHRSW) : Tot ABUN: 146
GS&ABUN 14: CORAMO 5	CLaSs Richn (1-5) : 5 Conifer? N
GS&ABUN 15: SPITOM 2	SubTYpe Richn (ABCDE) : B Trees : 0.041
GS&ABUN 16: SALIX 3	VEGeta Intersp (HML) : M Shrubs: 0.692
GS&ABUN 17: pINSTR 2	Surr. HABitat (123) : 1 Herbs : 0.267
GS&ABUN 18: VACCOR 1	Cover DISpers.(ABCDE) : D Bog : 0.007
GS&ABUN 19: SPILAT 8	Percent Open W (LMHV): L SBTY : CNPRUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID	:SA101	OUTlet2 (APE)	:E
2 letter TOWN codes*:HA		P% Bord OW (NLMH)	:L
Topo CONfig (CSVH)	:S	FETch (LH or blank)	:
Wetl SIZE (LMH)	:M	DEPTH (SD or blank)	:
Dom SOil type (int)	: 33	HYdr CoN (None, Stream, River	
Other SOil	:	Lake or Combin.	:R
Dom Surround Soil	: 38	ACCeSs (Rd Wat Iso)	:R
Other Surr. Soill	: 29	POP'n density (LMH)	:L
Other Surr. Soi12	: 397	loc SCARCity (LMH)	:L
wetl GRAdient (LH)	:H	CROP (N Hay Fam Com)	:N
Surr. SLOpe (LH)	:H	LEGAL accs (puB priV	
TOpo. P0sit. (LMH)	:H	or Restricted)	:V
Dom Hydr Condit(1-6):5			
RIParian conn (YN)	:Y		
INLet1 (Abs Perrenial or Ephemeral	:E	CALCULATED FROM OTHER DATA AND SOIL:	
INL2 (APE)	:	SurGeol Under w1(ALOT):L	PERmeabil (LMH):L
INL3 (APE)	:	SurGeol Surround(ALOT):L	THICKness (LMH):L
INL4 (APE)	:	HPOsition (Perch,W,A) :P	GW Relat (DRC) :C
INL5 (APE)	:	TRAnsmissivity (LMH)	:L
OUTLet1 (APE)	:E		

* NC New Castle RY Rye HA Hampton
NH North Hampton HF Hampton Falls SE Seabrook

3.0 MORE DETAILED INFORMATION ON COASTAL WETLANDS

This section provides users with more details on definitions, processes and analyses of freshwater wetlands (Section 3.1), salt marshes (Section 3.2) and sand dunes (Section 3.3). The results of specific site investigations are found in the three later sections for freshwater wetlands (Section 4.0), salt marshes (Section 5.0) and sand dunes (Section 6.0).

3.1 FRESHWATER WETLANDS

3.1.1 Wetland Boundary Definitions

State and federal criteria define wetlands by four parameters, using vegetation as the primary indicator of wetland communities unless the area has been recently disturbed (vegetation, soils, hydrology and topography).

Wetlands are areas occupied by plants specially adapted to saturated soils; soil must be saturated during the growing season, especially the upper foot. Wetlands are deemed worthy of protection due to the benefits they provide, including: prevention of downstream flooding; provision of wildlife habitat, including critical habitat and protection for threatened or endangered species of plants and animals; groundwater recharge protection; attenuation of pollution from surface waters; and educational, scientific, historic and aesthetic values.

Plants are grouped into categories of hydrologic preference (wet or dry) for each geographic area of the USA. Plant species found more than 95% of their occurrences in wetlands are called Obligate Hydrophytes, and assigned a wetland frequency of 100%. Those occurring less than 5% of the time in wetlands are called "Upland" species and given a 0% wetland frequency. The US Fish & Wildlife service has described three intermediate (Facultative) classes between these two groups: those flexible species occurring seldom in wetlands (FACU,

wetland frequencies from 6% to 33%, category median frequency of 18%), those occurring equally between uplands and wetlands (FAC, frequencies ranging from 33 to 66%, median frequency of 50%) and those preferring wetlands (FACW, frequencies from 67% through 95%, median value 82%).

For purposes of confirming the plant community structure, NAI has prepared an ecological summary for each of the wetlands evaluated. This lists all the species identified during the visit, up to but not beyond thirty representative species. Each species is assigned a percent cover value, representing its abundance for the overall site. The hydrologic categories for all the species are then weighted by the total relative abundance of each to arrive at a single index of plant community wetness: the Wetland Site Index (WSI) listed directly below each plant list for reference. Because of the computation method, the values can only range between 0 and 1.00, representing perfect uplands and wetlands respectively. Values below 0.50 indicate upland communities; values between 0.5 and 1.0 are typical of all wetlands studied to date.

3.1.2 Wetland Ecology and Hydrology

For the purposes of discussion, three freshwater wetland communities are recognized in New Hampshire. Grading from driest to wettest: swamp, marsh and bog. Swamps are dominated by woody vegetation and are further subdivided into Shrub and Wooded swamps, based on the height of the dominant woody plants being less than or greater than 15 feet. Marshes are dominated by herbaceous (non-woody) plants, and are divided into shallow (typically with cattails, sedges, and grasses) or deep marshes (typically with water lilies, pondweeds, pickerelweed and arrowheads).

Bogs are a special plant community where the woody vegetation forms a floating root mat which rises and falls with the water level (Table 6). Bogs usually encroach from the edge to the center of a pond or lake. They may be rooted in no soil whatever. The plants are specialized to survive in a very wet environment with acid water and little or no nutrients (fixed nitrogen or available phosphorus). Most bogs are dominated chemically by Sphagnum moss which acidifies the water and forms a thick sponge among the roots of the woody plants. Bogs are valued more highly than other wetlands in New Hampshire because in addition to the other benefits they provide, they are high in aesthetic and educational values and yet are extremely sensitive to disturbances. Disruptions of the hydrology or the water quality are quickly fatal to bogs. Increased nutrients from lawn fertilizers, failing septic systems, or farmland runoff are also fatal but take several years to become apparent. At first, the increased nutrient levels increase the growth of the bog species, but there follows the development of and eventual dominance of marsh species such as loosestrife, sedges, grasses and cattails over the slower-growing bog plants. In either case the regeneration of a bog can take centuries.

Table 6. Indicator Plant Species for Bogs

GENUS	SPECIES	COMMON NAME	TYPE
Sphagnum	sp.	Sphagnum moss	Herb
Picea	mariana	Black spruce	Tree
Picea	mariana	Black spruce	Shrub
Larix	laricina	Tamarack	Shrub
Larix	laricina	Tamarack	Tree
Chamaecyparis	thyoides	Atlantic white cedar	Shrub
Chamaecyparis	thyoides	Atlantic white cedar	Tree
Eriophorum	sp.	Cottongrass	Herb
Eriophorum	spissum	Cottongrass	Herb
Eriophorum	viridi-carinatum	Green-keeled cottongrass	Herb
Eriophorum	virginicum	Tawny cottongrass	Herb
Cypripedium	arietinum	Ram's head lady's-slipper	Herb
Cypripedium	parviflorum	Small yel. lady's-slipper	Herb
Platanthera	sp.	Orchid	Herb
Platanthera	clavellata	Sm. green wood orchid	Herb
Platanthera	flava	Tuberclad orchid	Herb
Platanthera	hyperborea	Northern green orchid	Herb
Platanthera	dilatata	Bog candle	Herb
Platanthera	blephariglottis	White-fringed orchid	Herb
Platanthera	psychodes	Sm. purple fring. orchid	Herb
Platanthera	grandiflora	Lar. purple fring. orchid	Herb
Pogonia	ophioglossoides	Rose pogonia	Herb
Calopogon	tuberosus	Grass pink	Herb
Arethusa	bulbosa	Arethusa	Herb
Spiranthes	lucida	Shining ladies' tresses	Herb
Spiranthes	romanzoffiana	Hooded ladies' tresses	Herb
Listera	cordata	Heart-leaved twayblade	Herb
Listera	convallarioides	Broad-leaved twayblade	Herb
Malaxis	monophylla	White adder's mouth	Herb
Malaxis	unifolia	Green adder's mouth	Herb
Calypso	bulbosa	Calypso	Herb
Sarracenia	purpurea	Pitcher plant	Herb
Drosera	intermedia	Spatulate-leaf sundew	Herb
Drosera	rotundifolia	Round-leaf sundew	Herb
Drosera	filiformis	Dew-thread	Herb
Parnassia	glauca	Grass of parnassus	Herb
Ericaceae		Heath family	All
Ledum	groenlandicum	Labrador tea	Shrub
Rhododendron	canadense	Rhodora	Shrub
Kalmia	polifolia	Bog laurel	Shrub
Andromeda	glaucophylla	Bog rosemary	Shrub
Chamaedaphne	calyculata	Leatherleaf	Shrub
Arctostaphylos	alpina	Alpine bearberry	Shrub
Vaccinium	vitis-idaea	Mountain cranberry	Shrub
Vaccinium	oxycoccus	Small cranberry	Shrub
Vaccinium	macrocarpon	Large cranberry	Shrub
Menyanthes	trifoliata	Common buckbean	Herb
Aster	nemoralis	Bog aster	Herb

3.1.3 Freshwater Wetlands Results and Impacts

Of the 238 above-average wetlands evaluated in the study area, 153 were Wooded swamps (WSI range: 0.51 to 0.87); 41 were shrub swamps (WSI range: 0.61 to 0.91); 24 were shallow marshes (WSI range: 0.79 to 1.00), 9 were open water wetlands (WSI range 0.60 to 0.94); 4 were deep marshes (WSI range: 0.81 to 0.95); 4 were wet meadows (WSI range: 0.71 to 0.97); 2 were brookside wetlands (WSI 0.57 and 0.82) and only one was a bog (WN115, North Hampton, WSI = 0.83).

However, some of the swamps and marshes contained bogs within them. To alert users to the presence of bog indicator species in other wetlands, each ecological summary adds the relative abundances for any plant species in Table 6 and lists the total value immediately below the species list. The presence of any number but 0.000 following the word "BOG" indicates the presence of species on this list. In many cases, this simply represents Sphagnum moss in with the other wetland species, but in some cases it indicates a sensitive species which may be a relic from when the wetland was much wetter.

Towns with bogs, some of which may be too small to have been evaluated by this study, should move to protect them from hydrologic or pollutant impacts, in addition to adding them to a list of prime wetlands. Those occurring in sandy areas are particularly susceptible to irreversible pollution from septic systems. Any source of sediment, nutrients or pollutant or any disruption to the regional hydrology such as inadequate culverts, beaver dams, ditching, or additional runoff sources can quickly end a bog's long life. Bogs should also be checked at least once every two weeks during every summer for rare orchids which can only grow in these sterile, acid waters, and which make the bog more valuable as a state resource.

Impacts to other freshwater wetland communities are much more readily dealt with, since they can be reversed and are of a much shorter duration. Marshes readjust to ditching, cutting, and to minor siltation sources very quickly as long as the hydrology is restored to the same

regime (levels, flow rates, etc). Swamps, generally drier than other wetland communities, are the commonest wetland types in the state, and frequently suffer un-permitted impacts through logging operations, recreational uses (skiing, snowmobiling, skating) or siltation from nearby construction. Most wooded swamps in the study area can tolerate more impacts than other wetlands without the loss of public benefits, unless they possess some unusual wildlife or other fragile benefit. Exceptional to this generality are forested wetlands with significant stands of black spruce (*Picea mariana*) or Atlantic white cedar (*Chamaecyparis thyoides*). These are relic bog species and grow much more slowly than most trees. The latter species in particular has been decimated by all the sources of impact which injure bogs, as previously described, but also by overcutting because its rot-resistant wood has long been highly prized. Growing more slowly than hemlocks, pines and maples, the white cedar is frequently overtapped by these nutrient-loving species shortly after more fertile waters pass through a bog. It remains at a competitive disadvantage where it occurs today along the coast, near the northern limit of its range. Management to reinstate it is best accomplished by girdling the competing trees which threaten to shade it out.

3.1.4 Literature

Guide to the designation of prime wetlands in New Hampshire. NHACC, Strafford RPC, and Env. Law Clinic. June 1983, available from NH Assoc. of Conservation Commissions.

Identification, documentation and mapping of prime tidal wetlands in the town of Hampton, NH. F. D. Richardson, Durham, NH December 1982. Coastal Program funded.

Sipple, W. S. 1985. Wetland identification and delineation manual. Draft report. U.S. EPA.

IEP, Inc. 1985. Portsmouth wetland delineation and mapping project.
June 1985. Coastal Program funded.

Breeding, C.H.J., F. D. Richardson, and S. A. L. Pilgrim 1974. Soil
survey of New Hampshire tidal marshes. NH Agr. Expt. Station,
Durham, NH, and USDA SCS.

New Hampshire Code of Administrative Rules, Chapter Wt 100, 200, 300,
400,500, eff. 10-83; and Wt 700 (Prime Wetlands) eff. 10-81.

USGS Topographic maps, $7\frac{1}{2}$ minute quadrangles: Hampton, Portsmouth,
Kittery, Exeter, Newburyport East.

Soils maps for each town: New Castle, Rye, Hampton, North Hampton, Hamp-
ton Falls, and Seabrook. Available from SCS in Exeter, NH

Aerial photos of the six towns flown March 31, 1986: 130 B/W photos,
Flight #6105, J. W. Sewall Co.

3.2 SALT MARSHES

Salt marshes, including freshwater tidal wetlands, are protected by New Hampshire law up to 3-1/2 feet above local mean high tide. These areas are of prime importance to estuarine and oceanic food chains.

3.2.1 Salt Marsh Development and Ecology

New Hampshire's salt marshes fall under Johnson's (1925) description of "New England type" marshes. They are still responding to the natural forces and events from which they were created. Factors influencing the initial formation of the marshes include the change in sea level, the tidal range, indigenous marsh vegetation, and the processes of sedimentation. A brief description of tidal marsh development and ecology is presented here.

The development of New Hampshire's marshes began at the end of the last glaciation. The marginal retreat of the glacier was quite rapid, and the melting ice sheet caused a rapid rise in sea level. Six thousand five hundred years ago the sea level was within a few meters of its present level (Bloom, 1978; Nixon, 1982). A 1970 study on the Hampton-Seabrook marsh showed that the marsh peat was between 2,700 and 6,800 years old (Keene).

Tidal marsh formation starts when wave and/or tide energy is reduced to the point where water-borne sediments settle out and accumulate upon the substrate. The wave energy is further reduced with the formation of a sand bar which later develops into a dune system. The protected waters behind this sand barrier slowly fill in from the edges with accumulated sediments brought in from the tide and from the upland runoff. Large mud and sand flats form and continue to increase in height. Once the flats reach mid-tide elevation the first

"intertidal" marsh plants, *Spartina alterniflora* (salt marsh cord-grass), appear. Within 4 to 5 years, these grasses spread across the flats by rhizome and seeds, eventually developing major stands.

With the spreading of cordgrass, the accumulation of sediments continues. The grasses themselves contribute to this accumulation by reducing the wave and tide energy and by trapping water-borne sediments. Yearly die-back of vegetation contributes organic material to the predominantly mineral sediment. Amidst these processes, the intertidal marsh grows in height and area, filling in any open water still present behind the sand barrier. Where the marsh reaches an elevation equal to mean high tide (MHW), the *Spartina alterniflora* is replaced by 2/*Spartina patens* (salt marsh hay), an indicator of "high marsh". This succession from mudflat to high marsh continues until the embayment behind the barrier beach is gradually transformed into the present tidal marsh and drainage creek system.

Even after the open water behind the dunes is replaced with marsh peat, sediments accumulate as the sea level continues to rise. The increase in sea level causes tidal waters to flood upland areas which are then colonized by high marsh species (Mudge, 1862; Redfield, 1972; and Nixon, 1982). Evidence of this upland submergence and subsequent marsh development may be seen in the tidal creek of Fairhill Swamp in Rye where there are submerged stumps and roots of Atlantic white cedar. Similar remnants of a cedar forest can be seen at low tide in the cove just south of Odiorne Point.

The border zone is formed where the high marsh and the upland or freshwater wetland converge. Such an area, intermediate between two communities, is called an ecotone. This zone is important because of its rich biological diversity; it contains some plant and animal species that inhabit both communities, as well as other species that are specifically indigenous to this narrow strip. Beyond its biological richness, the border zone is an integral part of the whole tidal marsh

system, and must be maintained to provide a "buffer zone" for the marsh proper (Richardson, 1982).

Tidal freshwater marshes are located upstream from tidal saline marshes (salt marsh) and down stream from non-tidal freshwater wetlands. They are characterized by (1) near-freshwater conditions with an average annual salinity of .5 ppt or less, except during periods of extended drought, (2) plant and animal communities dominated by freshwater species, and (3) a daily lunar tidal fluctuation.

The absence of dominant estuarine marsh grasses (*Spartina* spp.) differentiate tidal freshwater marshes from higher salinity marshes. Common species found in such systems are *Spartina pectinata* (freshwater cord grass), *Panicum virgatum* (switch grass), *Phragmites communis* (common reed), *Scirpus* spp., *Typha* spp. (cattail) *Polygonum* spp. *Lythrum salicaria* (purple loosestrife) *Iris versicolor* (blue flag) and *Impatiens capensis* (jewelweed).

Sediments in tidal freshwater marshes are high in clay, silt and organic matter, but generally low in peat and in total plant root biomass. This results in a higher susceptibility to erosion, low profile stream banks, and tidal creeks with low sinuosity compared to the estuarine marshes, which generally have high percentages of sand, peat and plant root materials. Tidal freshwater sediments are derived primarily from upstream sources.

The vegetative changes from the subtidal zone to the upland border have been attributed to change in marsh elevation. The difference in elevation causes a change in the frequency and duration of tidal inundation. This affects ecological parameters such as saturation and drainage of marsh soils, nutrient and oxygen availability, and variation in temperature and salinity values and ranges. These parameters will determine the vegetative types for specific locations on the marsh, particularly the high marsh.

The many irregularities of the marsh surface can also affect species distribution. Levees are formed along the marsh drainage creeks through the deposition and accumulation of water-borne sediments as the water overflows the creek's banks and floods the marsh. The major depressions on the marsh are classified either as "pannes" or "pond holes". A "panne" is a shallow pool of standing water (10-30 cm in depth) interrupting the vegetated surface of the marshland. A "pondhole" is a deeper panne (30-100 cm) that holds water throughout the year and has nearly vertical sides (Redfield, 1972; Richardson, 1982). "Rotten spots" are large, irregularly shaped pannes surrounded by a series of smaller, shallower pannes. Many of these smaller pannes may be covered with *Salicornia* and/or the short form of *Spartina alterniflora*. Rotten spots seem to develop in areas that have inadequate drainage. The trapped, standing water kills the high marsh vegetation and apparently leads to the decomposition and subsidence of the underlying peat.

Even though panned areas or rotten spots may indicate a degrading high marsh system these area also provide excellent feeding grounds for waterfowl and shorebirds. *Ruppia maritima*, a submersed aquatic, grows in the deeper pannes and pondholes. The leaves, shoots and seeds of this species provide food for foraging waterfowl. *Ruppia* also serves as an attachment substrate and shelter for invertebrates and small fish which are fed upon by such species as egret, heron and tern (Richardson, 1980).

Table 7 lists plants considered to be typical to New Hampshire marshes. This list is taken from work by Richardson (1982) who felt that these species should be used as "indicators" of tidal marsh when mapping wetlands and delineating the border zone. Some of these species are found only in specific areas of the marsh; their occurrence is often related to marsh elevation. Others on this list

TABLE 7. Indicator Plant Species For Salt Marshes

SCIENTIFIC NAME	COMMON NAME	HABITAT
<i>Aster subulatus</i> Michx.	Annual Salt Marsh Aster	Upland border of high marsh.
<i>Aster tenuifolius</i> L.	Perennial Salt Marsh Aster	Upland border of high marsh, uncommon.
<i>Atriplex glabriuscula</i> Edmond.	Orach	Common along creeks and drainage ditches.
<i>Atriplex patula</i> L. (vars.)	Orach	Very common on high marsh, along creeks, ditches & in strand line.
<i>Distichlis spicata</i> (L.) Greene	Spike-grass	Abundant on high marsh, often in association with <i>Spartina patens</i> .
<i>Eleocharis halophila</i> Fern. & Brack.	Salt Marsh Spike- Rush	Occasional in wet depressions on high marsh.
<i>Gerardia maritima</i> Raf.	Salt Marsh Gerardia	Edges of pannes and scattered on <i>Spartina</i> <i>patens</i> marsh.
<i>Glaux maritima</i> L. var. <i>obtusifolia</i>	Sea Milkwort	Border of high marsh growing with <i>Spartina</i> <i>patens</i> .
<i>Juncus gerardi</i> Loisel.	Black Grass	Very abundant along the upland border of high marsh either associated with <i>Spartina patens</i> or forming pure stands.
<i>Limonium nashii</i> Small	Sea Lavender or Marsh Rosemary	Scattered on high marsh, forb pannes and along edges of high marsh.
<i>Myrica pensylvanica</i> Loisel.	Bayberry	Border zone.

TABLE 7. (continued)

SCIENTIFIC NAME	COMMON NAME	HABITAT
<i>Panicum virgatum</i> L. var. <i>spissum</i> Linder	Switchgrass	Common in tufts along border zone.
<i>Phragmites communis</i>	Tall Reed	Forming dense stands along marsh border and in disturbed or filled areas.
<i>Plantago oliganthos</i> R. & S.	Seaside Plantain	Scattered on high marsh and in forb pannes.
<i>Potentilla anserina</i> L.	Silverweed	Common especially along edges of high marsh.
<i>Puccinellia maritima</i> (Huds.) Parl.	Alkali Grass	Scattered in clumps along ditches and on high marsh.
<i>Rosa rugosa</i> Thunb.	Salt Spray Rose	Clumps or thickets in the border zone.
<i>Rosa virginiana</i> Mill.	Virginia Rose	Border zone and upland.
<i>Ruppia maritima</i> L. (vars.)	Ditch Grass	Submersed in pond holes and ditches in the high marsh.
<i>Sanguisorba canadensis</i> L.	Canadian Burnet	Occasional in the border zone.
<i>Salicornia bigelovii</i> Torr.	Dwarf Glasswort	Occasional in highly saline pannes on high marsh.
<i>Salicornia europaea</i> L.	Glasswort or Samphire	Common in pannes and scattered on high marsh especially where soil salinity is high.
<i>Salicornia virginica</i> L.	Perennial or Woody Glasswort	Forms mats in some areas of high marsh.
<i>Scirpus americanus</i> Pers.	Three-square sedge	Wet borders of high marsh.

TABLE 7. (continued)

SCIENTIFIC NAME	COMMON NAME	HABITAT
<i>Scirpus maritimus</i> L. var. <i>Fernaldii</i> (Bickn.) Beetle	Salt Marsh Bulrush	Extensive stands along wet borders of high marsh.
<i>Scirpus paludosus</i> Nels.	Bayonet-Grass	Sedge of very wet pannes and rotten spots on high marsh.
<i>Smilax rotundifolia</i> L.	Greenbriar	Thorny, trailing vine of the border zone and on 'marsh islands'.
<i>Solidago sempervirens</i> L.	Seaside Goldenrod	Common in the border zone.
<i>Spartina alterniflora</i> Loisel.	Salt Water Cord Grass	Dominant species of intertidal marsh. Dwarfed form in low lying poorly drained areas.
<i>Spartina patens</i> (Ait.) Muhl.	Salt Meadow Grass	Dominant species of high marsh.
<i>Spartina pectinata</i> Link	Fresh Water Cordgrass	Border zones and near fresh water.
<i>Spergularia canadensis</i> (Pers.) Don	Sand Spurrey	Sandy strands along edge of marsh.
<i>Spergularia marina</i> (L.) Griseb.	Spurrey	Common on edges of high marsh and rim of creek and ditch banks.
<i>Suaeda</i> (Spp.)	Sea blite	Common along strand line, borders of high and intertidal marsh and around pannes.
<i>Triglochin maritima</i> L.	Seaside Arrow Grass	Scattered on high marsh and forb pannes.
<i>Typha angustifolia</i> L.	Narrow-Leaved Cattail	Extensive colonies in brackish areas along border of marsh.

seem to have a wider distribution and can only help to delineate the major zones; intertidal, high marsh or border zone.

The complexity of the tidal marsh ecosystem does not lend itself to simple explanation. New Hampshire tidal marshes are an ecotone between marine and terrestrial systems, and as such are influenced by both. The species present on the marsh are biologically unique. They have adapted to the rigors of life in an environment that changes daily as well as seasonally. The tidal marshes are still developing and still changing. However, the rate and the kind of change is dependent not only on natural processes, but also on human activities which directly affect them.

3.2.2 Salt Marsh Hydrology and Degradation

Many of the coastal marshes in New Hampshire have experienced degradation and loss due to the altering of their hydrology, which can often be attributed directly to human activities. In 1974 there were reported to be 7,500 acres of tidal marsh in New Hampshire (Breeding, *et al.*). This acreage had dwindled to 6,600 acres by 1982 (Short, 1985). With the rapid development of New Hampshire's coastal communities over the last four years, tidal wetlands have undoubtedly continued to shrink further in size.

The two hydrologic conditions that most severely affect saltmarsh viability are restriction of tidal flow, and retention of water on the high marsh surface.

It is the flooding and draining of saline waters that create the conditions essential to the characteristic high marsh flora and fauna. Restrictions along the course of the tidal creeks can inhibit ocean water from reaching the upper regions of the high marsh during a tidal cycle. With a restricted tidal flow, soil salinity will

eventually be reduced and the water table lowered, resulting in subsidence of peat from shrinkage and decomposition. This, in turn, increases areas of pannes and/or rotten spots and permits encroachment of freshwater or border zone species.

The most aggressive of these border zone plants is purple loosestrife (*Lythrum salicaria*). *Lythrum* is an introduced species from Europe that has moved into freshwater and terrestrial habitats throughout New England. It does not produce the detrital material so essential to the food web of a healthy tidal system, nor does it attract birds or wildlife, due to its low food value. Loosestrife tends to constitute a barrier to wildlife rather than a protective habitat. The invasion of purple loosestrife, and to a lesser extent *Typha* (cattail) and *Phragmites* (common reed), indicates a degrading salt marsh system.

Phragmites has been described by Roman *et al.* (1984) as an indicator of a marsh system degraded due to tidal restriction. *Phragmites* is most often found along the border of the tidal marsh, particularly in areas that have been disturbed by manmade or natural causes (Niering and Warren, 1980; Nixon and Oviatt, 1973; Redfield, 1972). *Typha* is also a border zone species that can withstand limited exposure to brackish water (Richardson, 1983; Redfield, 1972). *Typha*, and *Phragmites* may indicate sources of freshwater coming into the marsh (Nixon, 1982; Nixon and Oviatt, 1973).

Prolonged retention of water on the high marsh surface will destroy the high marsh vegetation creating dead pannes and rotten spots. At these sites, the marsh peat begins to rot, compact and subside, creating low areas on the marsh. The low areas act to trap additional waters. As trapped tidal water begins to evaporate, salt concentration increases. These shallow pannes, with high saline conditions, will kill off most high marsh vegetation and eventually will eliminate much of the fauna brought in with the tidal waters. However, these shallow pannes are not totally dead. They support thriving colonies of bluegreen algae

and many insects. The deeper pannes, which do not progress toward hyper-saline conditions, will often contain crustaceans and small fish brought in by the higher spring tides. Wildlife and shore birds are attracted to this trapped food source and to the submergent plants, such as *Ruppia maritima*, often found in these deeper pannes (Richardson, 1980).

Panne formation indicates an unstable ecosystem. As the pannes increase in size and number, the marsh's health degrades to the point where it becomes inhospitable to birds and animals. Ironically, an area of tidal marsh rich in birds and fish may indicate a system in the process of decline toward a stable, but non-ecologically productive condition (Short, 1985).

Mosquito ditches, excavated earlier in this century, have exacerbated the problems associated with trapped waters. The levees, which were formed as the peat was removed and piled up along the margins of the ditches, have created enclosed areas that are flooded on the higher spring tides and then prevented from draining.

When residents complain about the health of a salt marsh, mosquitos and odor are among their greatest concerns. Both of these are natural phenomena of a tidal marsh system, but both may be aggravated by a restricted tidal ebb and flow and/or lack of proper drainage of the high marsh. A marsh with restricted drainage, many pannes and rotten spots, and large mono-culture stands of border zone species is likely to be afflicted with mosquito and odor problems.

The solution to problems associated with tidal restriction and lack of drainage is an increase in the movement of both fresh and salt water across the marsh surface. However, each impacted tidal system has its own set of conditions contributing to inhibited tidal ebb and flow, so solutions for mitigating these impacts must be site-specific. See Section 5.3 for a discussion of problems in selected New Hampshire salt marshes.

3.2.3 Salt Marsh Soils

Soils in tidal wetlands are organic peat deposits composed of plant remains in various stages of decomposition, and sand, silt and clay mineral particles. The intertidal marsh soils contain a smaller percentage of organic matter than do the high marsh soils, due to the extent and duration of tidal flooding and the scouring action of ice flows which carry away the aerial plant parts. The high marsh peat, in addition to greater organic matter content, contains finer mineral fractions (silts and clays) which are held in suspension longer as the flood tides cover the marsh. The presence of sulfidic materials is an important property of tidal wetland soils. These materials accumulate in both organic and mineral soil materials under permanently saturated conditions. When a clod of tidal marsh soil is dug up, the characteristic "rotten egg" smell of hydrogen sulfide (H_2S) is often quite noticeable. If these soils are drained or excavated and exposed to the air, the sulfides oxidize and form sulfuric acid and the soil will no longer support plant growth.

The soils found in New Hampshire saltmarshes, along with their Soil Conservation Service (SCS) identification codes, are briefly described below.

397 TYPIC SULFIHEMISTS, organic materials thicker than 50 inches.

This soil occupies the high marsh of the main central part of the coastal marshes, the high marsh bordering the streams feeding into the coastal marshes, and the high marsh bordering the smaller streams flowing into Great and Little Bays. In its natural state, this soil is suited for the growth of halophytes such as *Spartina patens* and *Juncus gerardi*. Salt hay is the only suitable agricultural crop. Flooding and salinity preclude use of this soil for tree growth. Restricted internal drainage, flooding, and low bearing strength present

severe limitations to its use for community development. It is well suited to wetland wildlife habitat development.

- 497 TERRIC SULFIHEMISTS over sand, organic materials 16 to 50 inches thick, overlying sandy materials.

This soil generally lies at the edges of the high coastal marshes, both the landward margin underlain by sandy-textured tills and the seaward margin underlain by the sand and gravels of the barrier beaches. It also lies in the banks of the large tidal rivers of the coastal marsh. Most of the intertidal marshes are underlain by this soil.

The natural vegetation of the intertidal portion of this soil is uniformly *Spartina alterniflora*. The high marsh vegetation comprises a greater variety of salt-tolerant herbaceous plants, the dominant species being *Spartina patens*, *Distichlis spicata* and *Juncus gerardi*. Only the high marsh areas afford any potential for farming and that is limited to production of salt hay. This soil does not support tree growth. It has severe limitations to use for community and recreational development. It is best suited to wetland wildlife habitat development.

- 597 TERRIC SULFIHEMISTS over silt, organic materials 16 yo 50 inches thick overlying silty materials.

This soil occurs at the headwaters of small tidal streams and in small coves on the landward side of the coastal marshes. It also occupies high marsh areas along the upper reaches of streams feeding into the Great Bay complex, shallow coves and narrow margins of the bay, and the intertidal marshes contiguous to deep high marsh soils of the bay.

The dominant natural vegetation is *Spartina alterniflora* on the intertidal marsh, and *Spartina patens*, *Distichlis spicata* and *Juncus gerardi*, on the high marsh. The salinity and periodic flooding preclude tree growth and the growth of herbaceous plants other than those capable of standing salt concentrations in excess of 10 ppt. The properties of this soil make it unfavorable for community and recreational development uses. It is not suitable for farming. It is well adapted for use as wetland wildlife habitat development.

697 LITHIC SULFIHEMISTS, organic materials 16 to 50 inches thick overlying bedrock

This soil occupies areas characterized by numerous rock outcroppings. It occurs in New Castle, in the eastern part of the town of Rye and in one small area in the town of Seabrook.

In its natural condition, the soil is covered with herbaceous, salt-tolerant plants typical of the high marsh. The dominant species are *Spartina patens* and *Juncus gerardi*. Where installed, open drainage ditches have not materially improved the soil's potential for agricultural production. Salinity and flooding preclude the growth of forest trees. All areas of this soil are in natural vegetation. Its best use is for wetland wildlife habitat development.

797 TYPIC SULFAQUENTS, organic materials less than 16 inches thick overlying sandy materials.

This soil of the high marsh lies at the extreme seaward margin of the coastal marshes on the gently shelving sands of the barrier beach. It is also in small areas on the western side of Great Bay and several streams flowing into it.

The natural vegetation includes salt-tolerant herbaceous plants, mainly *Spartina patens*, *Juncus gerardi* and *Salicornia virginica*. Periodic flooding and high salinity inhibit the growth of trees. Salinity and tidal flooding limit any farming operations except the harvesting of salt hay. If flooding is controlled, the thin surface organic horizons and the underlying sands do not present the problems to filling, presented by other salt marsh soils. In fact, perhaps one-third of the original extent of this soil has been filled and developed. In its natural condition, however, its best use is for wetland wildlife habitat development.

997 SULFIHEMISTS, surface soils with low salt, organic materials thicker than 50 inches, or 16 to 50 inches thick overlying sandy or silty materials.

This soil commonly occurs in small areas at the headwaters of streams feeding into the marshes and along the banks of the larger tidal river flowing into the Great Bay complex. *Spartina alterniflora* is the dominant vegetation of the intertidal portions. On the high marsh portion, in addition to *Spartina patens*, are many plant species unable to withstand the higher salt concentrations of other tidal marsh soils. Typical plants are *Spartina pectinata* (freshwater cordgrass), and *Typha* spp., the cattails. The soil has little or no value for farming and will not support forest tree growth. It is well suited to wetland wildlife habitat development.

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3.3 SAND DUNE COMMUNITIES

The public benefits from dune areas fall into two categories: they provide buffer zones which protect public and private interests from blowing sand, erosion and flooding associated with coastal storms, and they provide critical habitat for a plant community as unique as that of the salt marshes. Twelve dune areas were evaluated as part of this project, marked with codes beginning with "DU" on the wetlands maps.

3.1.1 Dune Ecology and Development

Dunes are common on the Atlantic coastal plain from Cape Cod southward, but very few exist north of Plum Island, MA. In New Hampshire, sand dune plants are at the northern limit of their ranges (Table 8). The most common indicator species is beach (or dune) grass (*Ammophila breviligulata*), able to grow several inches a day and tolerate the extreme dune conditions.

Dunes are formed from fine sand carried along the coast by waves and long shore currents. As the wave patterns change and the daily tide rises and falls, a ridge of sand is deposited just above the waters' highest reach. This ridge dries out at low tide and is subject to wind erosion. Much of the sand is blown back into the ocean but some moves inland and is dropped by the wind in quieter areas. Onshore breezes erode the tidal ridge, carry the fine sea sand inland across a level expanse of beach and deposit it at the first major wind break, usually at the bases of pioneer dune plants such as beach grass, sea rocket (*Cakile edentula*), or beach pea (*Lathyrus japonica*). These plants can tolerate the salt in the sea sand, and by stopping the blowing sand they form the first ridge of dunes closest to the beach, called the foredunes. Each tidal cycle brings more sand along the coast to the beach top and each onshore breeze adds sand to the bases of the foredune plants, gradually building the dunes to a height which the waves alone do not reach.

Table 8. Indicator Plant Species for Sand Dunes

GENUS	SPECIES	COMMON NAME	TYPE
Pinus	rigida	Pitch pine	Tree
Ammophila	breviligulata	Dune grass	Herb
Aristida	tuberculosa	Seabeach needle grass	Herb
Cenchrus	longispinus	Northern sandbur	Herb
Cenchrus	incertus	Gulf coast sandbur	Herb
Myrica	pensylvanica	Bayberry	Shrub
Myrica	cerifera	Waxmyrtle	Shrub
Quercus	prinoides	Dwarf chinkapin oak	Shrub
Quercus	ilicifolia	Bear (scrub) oak	Shrub
Atriplex	patula	Halberd-leaved orach	Herb
Suaeda	maritima	Seaside blight	Herb
Suaeda	richii	Sea-blite	Herb
Suaeda	linearis	Sea-blite	Herb
Salsola	kali	Common saltwort	Herb
Spergularia	marina	Sand-spurrey	Herb
Arenaria	lateriflora	Grove sandwort	Herb
Arenaria	peploides	Seabeach sandwort	Herb
Cakile	edentula	Searocket	Herb
Prunus	maritima	Beach plum	Shrub
Prunus	pumila	Sand cherry	Shrub
Prunus	susquehanae	Sand cherry	Shrub
Cytisus	scoparius	Scotch broom	Shrub
Empetrum	nigrum	Black crowberry	Shrub
Corema	conradii	Broom crowberry	Shrub
Hudsonia	ericoides	Golden heather	Shrub
Hudsonia	tomentosa	Poverty-grass	Shrub
Arctostaphylos	uva-ursi	Bearberry	Shrub
Limonium	carolinianum	Sea lavender	Herb
Solidago	sempervirens	Seaside goldenrod	Herb
Baccharis	halimifolia	Groundsel-tree	Shrub
Iva	frutescens	Marsh elder	Both
Artemisia	caudata	Wormwood	Herb
Artemisia	stelleriana	Dusty miller	Herb

Successive dune ridges are built in this manner and maintained by the dune plants until eroded by an extreme coastal storm where erosion by large waves removes the entire beach and foredune areas. Back dunes (old foredunes now protected by new rows of foredunes) are protected from salt by their distance from the ocean. A new plant community develops, where less salt-tolerant plants such as beach plum (*Prunus maritima*) and golden heather (*Hudsonia ericoides*) invade the beach grass.

The water table in sandy areas is a critical factor in determining what plant species take hold of these back dunes. Precipitation and runoff percolate down through the sand and come to rest on the denser layer of salt water. Some mixing occurs at the boundary, but less than one might assume. With additional rain, the boundary is depressed below sea level and the fresh water forms a floating layer, thin near the salt water edge and thick in the middle of the dunes, called a lens (for its shape). Plants requiring fresh water can tap this lens, provided there is sufficient recharge water to prevent the salt water from entering their root systems during the driest part of each summer. When one considers the effects of the daily rise and fall of the tides, with the fresh water rising and falling as it floats on top of the salt, one can imagine how complex the interactions become.

3.3.2 Dune Uses and Degradation

Dune stability depends most directly on sand mobility, which in turn depends on plants and other natural wind breaks. Unfortunately, the plants most able to colonize dunes are also very fragile due to their delicate underground root systems, easily damaged by foot or vehicular traffic. Some plants, like the golden heather, are destroyed for decades by the passage of a single vehicle.

Once sandy areas are disturbed by traffic, progressive degeneration ensues, with blowing sand being removed by any high wind, exposing the roots of the remaining plants, causing them to fail, and so forth. Sand is removed rapidly from flat open areas, being deposited around the nearest downwind wind breaks. Nearby standing vegetation is drenched with this sand, forming ridges around the flat depleted area. The result is a bowl-shaped area called a "blow-out". Unless checked by the addition of windbreaks in the center of the bowl, the sand will be removed to a great depth, often reaching the water table, where the wind encounters less erodible sand and the erosion "bottoms out".

The keys to managing sandy areas are listed below; more information is available in the Management Plan for Seabrook Dunes (NAI, 1985, Office of State Planning). The following summary may be useful:

1. Avoid foot and vehicular traffic to the greatest extent possible. Place barricades and signs. Restrict all human use.
2. Place windbreaks (snow fences, brush staked in place) in unvegetated areas to stop the loss of sand.
3. Establish new vegetation; beach grass can be purchased and easily planted. Fertilize it well initially. Follow up with woody species within the next year. Hand-planting of sprigs (culms) should begin early in May in areas protected from all traffic and from wind. This species has been successfully used to stabilize moving sand since approximately 1895, when the Town of Provincetown, Massachusetts, used it to remedy a major sand dune movement. Once rooted it grows rapidly and reduces the sand movement to a moderate level wherever it flourishes. It is routinely used at Parker River Refuge and Salisbury Beach Reserve to replace vegetation following vehicle damage, and is planted one culm every $1\frac{1}{2}$ feet, or about one culm per 0.45 square feet. It is available from:

Mr. Edwin Springer, Springer Environmental Services, Inc.
245 Keene Road, Acushnet, MA 02743, (617) 763-2152

For additional information on sand management or planting contact:

Mr. Peter Carlson, Sr. Forest & Parks Supervisor, Salisbury Beach State Reservation, P. O. Box 303, Salisbury, MA 01950, (617) 462-4481

3.3.3 Literature

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4.0 APPENDIX: FRESHWATER WETLANDS, DETAILED RESULTS

4.1 HOW TO USE THE RESULTS

Two pages present the evaluation results for each wetland. The left page consists of copies of the two data sheets ("EVAL" and "MAPR") output by the computer in the exact forms from which the results were calculated. The right page contains the most important summaries, as described below. It is divided into the top: ECOLOGICAL SUMMARY, and the bottom: RESULTS OF MODEL COMPUTATIONS.

Explanation of ECOLOGICAL SUMMARY

PLANT SPECIES LIST:

Abundance - a relative measure of areal dominance estimated visually in the field for each species; (summed to the variable TABUN on the datasheet EVAL)

Wetl Freq - the frequency with which the plant species occurs in wetlands; based on National Wetlands Inventory plant list; blank indicates no data, usually because the plant species is not adequately identified.

Type - Plant type: T=tree, S=shrub; H=herb; B=both S and H; A=all types
Note: trees may be T if mature or S if less than 5 meters (15 ft) high.

Food Value - summary of wildlife food value, range: low to hi 0-4

COMMUNITY SUMMARY PARAMETERS:

WSI - Wetland Site Index, an overall summation of Wetl Freq for all the species listed, weighted by abundance.

WFV - Wildlife Food Value, a summation of food values for the species listed, weighted by abundance, normalized to range: 0 to 1.

BOG - Fraction of total abundance contributed by bog indicator species.

SALT - Fraction of total abundance contributed by salt marsh species.

DUNE - Fraction of total abundance contributed by sand dune species.

SUBCLASS REPRESENTATIONS:

SHRUB - Fraction of total abundance contributed by shrubs described as Aquatic, Sapling, Bushy and Compact

MARSH - Fraction of total abundance contributed by herbs described as Robust, Broad-leaved, Narrow-leaved, and Floating-leaved

TYPE:

The wetland type is set by the field observer's choice of Dominant Wetland Class (DWC on the EVAL datasheet, although more than one class may be present in each wetland) as follows:

0 Brookside	6 Shrub swamp
1 Open water	7伍ooded swamp
2 Deep fresh marsh	8 Bog
3 Shallow fresh marsh	9 Salt marsh
4 Annual floodplain	10 Dune
5 Wet meadow	

SUBTYPES:

All plant species found in significant amounts (greater than 2% total abundance) are taken to indicate the presence of marsh and shrub swamp subtypes. Their presence causes the appropriate letter to appear in this space. Some stand for community indicator species (B,D and S), the others stand for the subtypes listed below.

A=Aquatic Sh. D=Dune N=Narrow-leaf H. S=Saltmarsh W=Wide-leaf
B=Bog F=Float-leaf H. P=saPling Sh. U=bUshy Sh. (broad)
C=Compact Sh. M=Moss R=Robust H. V=Vine

Explanation of RESULTS OF MODEL COMPUTATIONS

Each model has been run on 238 wetlands in New Hampshire. The results were sorted by score in order of rank, from the lowest to the highest. The lowest ten percent of the wetland scores are placed in the first decile, the next ten percent higher are placed in the second decile, and so on until all ten deciles are specified. This results table shows which decile each wetland falls in, ranked against the other wetlands in this study. The number of stars indicates the number of deciles.

The table is organized to show the model number, then the model abbreviation, then the raw score, then the ranking decile. A colon is placed after the first five deciles to show the placement of the median value (the lowest five deciles or 50% of the wetlands).

Below the table is the average decile for all ten models, as well as an indication of whether the wetland fit the two criteria for prime wetland candidate (See Section 2.5).

4.2

RESULTS TABLES BY TOWN

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: HA002 PLACE: (Photo 3-6) S of Depot Ave, HF

FL DATE : 04/16/86	GS&ABUN 20: VIBREC10	Veg DENsity (HML) : L
GS&ABUN 1 : ACERUB15	GS&ABUN 21: CORAMO 1	wetl JUXTapos(HML): M
GS&ABUN 2 : POPTRE 8	GS&ABUN 22: SALIX 3	w. level FLUCtu (Hi
GS&ABUN 3 : BETPOP 2	GS&ABUN 23: pOPTRE 5	Lo Vernal pool): L
GS&ABUN 4 : PINSTR 4	GS&ABUN 24: SPILAT 1	Veg.Spec. Richness: L
GS&ABUN 5 : ULMAME 1	GS&ABUN 25: MYRPEN 1	
GS&ABUN 6 : PRUSER 1	GS&ABUN 26: RIBES 1	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : CAROVA 1	GS&ABUN 27: ROSPAL 2	WSI: 0.724
GS&ABUN 8 : BETPAP 1	GS&ABUN 28: RHURAD30	WFV: 0.362
GS&ABUN 9 : RHUTYP 1	GS&ABUN 29: ONOSEN18	Perc. Wild. Food: M
GS&ABUN 10: aCERUB 3	GS&ABUN 30: SOLIDA 2	NO. of species: 30
GS&ABUN 11: ALNRUG35	INVESTigator : TLP	Prime :
GS&ABUN 12: pINSTR 3	Dom Wetl Class (0-11): 7	Aesthetic: 0.051
GS&ABUN 13: ILEVER16	SPec ELEM (ADEFHRSW) :	Tot ABUN: 177
GS&ABUN 14: RHAFRA 6	CLaSS Richn (1-5) : 2	Conifer? N
GS&ABUN 15: jUNVIR 1	SubTYpe Richn (ABCDE): D	Trees : 0.192
GS&ABUN 16: uLMAME 1	VEGeta Intersp (HML) : L	Shrubs: 0.695
GS&ABUN 17: VITIS 1	Surr. HABitat (123) : 2	Herbs : 0.113
GS&ABUN 18: ROSMUL 2	Cover DISpers.(ABCDE): E	Bog : 0.000
GS&ABUN 19: bETPOP 1	Percent Open W (LMHV): L	SBTY : PUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : HA002	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :L
Topo CONfig (CSVH) :S	FETch (LH or blank) :
Wetl SIze (LMH) :L	DEPTH (SD or blank) :
Dom SOil type (int) : 26	HYdr CoN (None, Stream, River
Other SOil : 538	Lake or Combin. :R
Dom Surround Soil : 38	ACCeSS (Rd Wat Iso) :R
Other Surr. Soill : 397	POP'n density (LMH) :L
Other Surr. Soil2 :	loc SCARCity (LMH) :L
wetl GRAdient (LH) :H	CROP (N Hay Fam Com):N
Sur. SLOpe (LH) :H	LEGAL accs (pub priv
TOpo. P0sit. (LMH) :H	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIPArain conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :A	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :	SurGeol Under wl(ALOT):O PERmeabil (LMH):H
INL3 (APE) :	SurGeol Surround(ALOT):L THICKness (LMH):L
INL4 (APE) :	HPOsition (Perch,W,A) :W GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTLet1 (APE) :E	

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 3-6) S of Depot Ave, HF
HA002 Field Date: 04/16/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	15	0.50	T	3
Populus tremuloides	Quaking aspen	8	0.00	T	2
Betula populifolia	Grey birch	2	0.50	T	2
Pinus strobus	White pine	4	0.18	T	3
Ulmus americana	American elm	1	0.82	T	1
Prunus serotina	Black cherry	1	0.18	T	3
Carya ovata	Shagbark hickory	1	0.18	T	2
Betula papyrifera	Paper birch	1	0.18	T	2
Rhus typhina	Staghorn sumac	1	0.00	T	2
Acer rubrum	Red maple	3	0.50	S	3
Alnus rugosa	Speckled alder	35	1.00	S	1
Pinus strobus	White pine	3	0.18	S	3
Ilex verticillata	Winterberry	16	1.00	S	1
Rhamnus frangula	Europ. buckthorn	6	0.50	S	0
Juniperus virginiana	Red cedar	1	0.18	S	1
Ulmus americana	American elm	1	0.82	S	1
Vitis sp.	Grapevine	1		S	3
Rosa multiflora	Multiflora rose	2	0.00	S	1
Betula populifolia	Grey birch	1	0.50	S	2
Viburnum recognitum	Northern arrowwood	10	0.82	S	1
Cornus amomum	Silky dogwood	1	0.82	S	3
Salix sp.	Willow	3	0.82	S	1
Populus tremuloides	Quaking aspen	5	0.00	S	2
Spiraea latifolia	Meadowsweet	1	0.50	S	0
Myrica pensylvanica	Bayberry	1	0.50	S	2
Ribes sp.	Gooseberry	1		S	1
Rosa palustris	Marsh rose	2	1.00	S	1
Rhus radicans	Poison ivy	30	0.82	S	2
Onoclea sensibilis	Sensitive fern	18	1.00	H	0
Solidago sp.	Goldenrod	2		H	0

WSI: 0.723 WVF: 0.361 BOG: 0.000 SALT: 0.000 DUNE: 0.005

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.09 BUSHY: 0.39 COMPACT: 0.01

MARSH SBCL: ROBUST: 0.00 BROADL: 0.10 NARROW: 0.00 FLOATING: 0.00

SUBTYPES:PUVW

WATERSHED: Hampton Falls River TYPE: Wooded Swamp

RESULTS OF MODEL COMPUTATIONS

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	31.7	:** :	6 WQual	38.2	:* :
2 Hydro	50.0	:*** :	7 Econ	56.5	:***** :
3 GrWat	47.1	:*****:*	8 Recr	30.1	:*** :
4 Flood	58.8	:*** :	9 Aest	34.7	:*** :
5 ShoLi	12.4	:*****:	10 Educ	25.3	:* :

AVERAGE DECILE OF TEN MODELS: 3.10

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
WID: HA003 PLACE: (Photo 3-6) Brimers Ln, HF

FL DATE : 06/04/86	GS&ABUN 20: ASTER 1	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB30	GS&ABUN 21: IMPCAP 2	wetl JUXtapos(HML): M
GS&ABUN 2 : QUERUB 1	GS&ABUN 22: ARANUD 2	w. level FLUCtu (Hi
GS&ABUN 3 : BETLUT 1	GS&ABUN 23: OSMREG 3	Lo Vernal pool): L
GS&ABUN 4 : VACCOR15	GS&ABUN 24: MAICAN 7	Veg.Spec. Richness: M
GS&ABUN 5 : CLEALN10	GS&ABUN 25: ONOSEN10	
GS&ABUN 6 : ILEVER 8	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : RHURAD 7	GS&ABUN 27:	WSI: 0.719
GS&ABUN 8 : bETPOP 1	GS&ABUN 28:	WFV: 0.343
GS&ABUN 9 : pRUSER 1	GS&ABUN 29:	Perc. Wild. Food: M
GS&ABUN 10: ALNRUG10	GS&ABUN 30:	NO. of species: 25
GS&ABUN 11: ROSPAL 8	INvestigator : HCS	Prime :
GS&ABUN 12: VIBREC 7	Dom Wetl Class (0-11): 7	Aesthetic: 0.075
GS&ABUN 13: VITIS 2	SPec ELem (ADEFHRSW .):	Tot ABUN: 134
GS&ABUN 14: OSMCIN 3	CLaSs Richn (1-5) : 2	Conifer? N
GS&ABUN 15: IRIVER 1	SubTYpe Richn (ABCDE): D	Trees : 0.239
GS&ABUN 16: THAPOL 1	VEGeta Intersp (HML) : L	Shrubs: 0.515
GS&ABUN 17: ATHFIL 1	Surr. HABitat (123) : 1	Herbs : 0.246
GS&ABUN 18: SOLIDA 1	Cover DISpers.(ABCDE): E	Bog : 0.000
GS&ABUN 19: TRIBOR 1	Percent Open W (LMHV): L	SBTY : RUWW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : HA003	OUTlet2 (APE) :
2 letter TOWN codes*:HF	% Bord OW (NLMH) :N
Topo Config (CSVH) :S	FETch (LH or blank) :
Wetl SIZe (LMH) :M	DEPTH (SD or blank) :
Dom SOil type (int) : 538	HYdr CoN (None, Stream, River
Other Soil :	Lake or Combin. :S
Dom Surround Soil : 397	ACCeSS (Rd Wat Iso) :R
Other Surr. Soi11 : 38	POP'n density (LMH) :L
Other Surr. Soi12 : 40	loc SCARCity (LMH) :L
wetl GRAdient (LH) :H	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :H	LEGAL accs (pub priv
TOpo. PPosit. (LMH) :H	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIPArain conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemerall :E	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):L THICKness (LMH):L
INL4 (APE) :	HPOsition (Perch,W,A) :P GW Relat (DRC) :C
INL5 (APE) :	TRANsmissivity (LMH) :L
OUTLet1 (APE) :E	

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 3-6) Brimers Ln, HF
HA003 Field Date: 06/04/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	30	0.50	T	3
Quercus rubra	Northern red oak	1	0.18	T	4
Betula lutea	Yellow birch	1	0.50	T	2
Vaccinium corymbosum	Highbush blueberry	15	0.82	S	2
Clethra alnifolia	Sweet pepperbush	10	0.82	S	0
Ilex verticillata	Winterberry	8	1.00	S	1
Rhus radicans	Poison ivy	7	0.82	S	2
Betula populifolia	Grey birch	1	0.50	S	2
Prunus serotina	Black cherry	1	0.18	S	3
Alnus rugosa	Speckled alder	10	1.00	S	1
Rosa palustris	Marsh rose	8	1.00	S	1
Viburnum recognitum	Northern arrowwood	7	0.82	S	1
Vitis sp.	Grapevine	2		S	3
Osmunda cinnamomea	Cinnamon fern	3	0.82	H	0
Iris versicolor	Blue flag	1	1.00	H	0
Thalictrum polygamum	Tall meadow-rue	1	0.00	H	0
Athyrium filix-femina	Lady fern	1	0.50	H	0
Solidago sp.	Goldenrod	1		H	0
Trientalis borealis	Starflower	1	0.50	H	0
Aster sp.	Asters	1		H	0
Impatiens capensis	Jewelweed	2	0.82	H	0
Aralia nudicaulis	Wild sarsaparilla	2	0.00	H	0
Osmunda regalis	Royal fern	3	1.00	H	0
Maianthemum canadense	Canada mayflower	7	0.00	H	0
Onoclea sensibilis	Sensitive fern	10	1.00	H	0

WSI: 0.718 WFW: 0.343 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.01 BUSHY: 0.43 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.02 BROADL: 0.12 NARROW: 0.00 FLOATING: 0.00
 SUBTYPES: RUWV

WATERSHED: Hampton Falls River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

1 Biol	32.5	:**	:	:
2 Hydro	51.3	:****	:	:
3 GrWat	30.1	:**	:	:
4 Flood	61.7	:*****	:	:
5 ShoLi	0.00	:**	:	:

Benefit Score 1-R-A-N-K-10

6 WQual	46.0	:**	:	:
7 Econ	73.9	:*****	:**	:
8 Recr	32.8	:*****	:	:
9 Aest	34.7	:***	:	:
10 Educ	33.3	:***	:	:

AVERAGE DECILE OF TEN MODELS: 3.30

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: HA004 PLACE: (Photo 3-6) Dodge Ponds, between Rt1 & Rt84, HF
 FL DATe : 05/28/86 GS&ABUN 20: CAREX 3 Veg DENsity (HML) : H
 GS&ABUN 1 : ACERUB50 GS&ABUN 21: JUNEFF 2 wetl JUXtapos(HML): H
 GS&ABUN 2 : PINSTR 5 GS&ABUN 22: SOLIDA 2 w. level FLUCtu (Hi
 GS&ABUN 3 : ULMAME 2 GS&ABUN 23: IRIVER 3 Lo Vernal pool): L
 GS&ABUN 4 : sALIX 1 GS&ABUN 24: IMPCAP 7 Veg.Spec. Richness: H
 GS&ABUN 5 : VIBCAS10 GS&ABUN 25: PANTRI 2
 GS&ABUN 6 : CORSTO 2 GS&ABUN 26: MAICAN 4 ECOLOGICAL COMPUTATIONS:
 GS&ABUN 7 : pINSTR 3 GS&ABUN 27: DRYNOV 1 WSI: 0.716
 GS&ABUN 8 : ALNRUG 4 GS&ABUN 28: ARISAE 2 WFV: 0.363
 GS&ABUN 9 : vIBLEN 7 GS&ABUN 29: ONOSEN30 Perc. Wild. Food: M
 GS&ABUN 10: pRUSER 3 GS&ABUN 30: NO. of species: 29
 GS&ABUN 11: RHAFRA 2 INVESTigator : HCS Prime : P
 GS&ABUN 12: ILEVER20 Dom Wetl Class (0-11): 7 Aesthetic: 0.078
 GS&ABUN 13: RHURAD30 SPec ELem (ADEFHRSW): Tot ABUN: 232
 GS&ABUN 14: VIBREC25 CLaSs Richn (1-5) : 4 Conifer? N
 GS&ABUN 15: RIBES 2 SubTYpe Richn (ABCDE): C Trees : 0.246
 GS&ABUN 16: CORAMO 2 VEGeta Intersp (HML) : M Shrubs: 0.478
 GS&ABUN 17: LYTSAL 3 Surr. HABitat (123) : 3 Herbs : 0.276
 GS&ABUN 18: ASTER 3 Cover DISpers.(ABCDE): D Bog : 0.000
 GS&ABUN 19: TYPLAT 2 Percent Open W (LMHV): M SBTY : NPRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA
 Wet ID : HA004 OUTlet2 (APE) :
 2 letter TOWN codes*:HF P% Bord OW (NLMH) :H
 Topo CONfig (CSVH) :S FETch (LH or blank) :L
 Wetl SIZE (LMH) :M DEPTH (SD or blank) :D
 Dom SOil type (int) : 538 HYdr CoN (None, Stream, River
 Other SOil : 395 Lake or Combin. :S
 Dom Surround Soil : 299 ACCeSs (Rd Wat Iso) :R
 Other Surr. Soi11 : 510 POP'n density (LMH) :L
 Other Surr. Soi12 : loc SCARCity (LMH) :H
 wetl GRAdient (LH) :H CROP (N Hay Fam Com):N
 Surr. SLOpe (LH) :H LEGAL accs (puB priV
 TOpo. POsit. (LMH) :H or Restricted) :V
 Dom Hydr Condit(1-6):5
 RIPArarian conn (YN) :Y
 INLet1 (Abs Perrenial
 or Ephemerall :E CALCULATED FROM OTHER DATA AND SOIL:
 INL2 (APE) :E SurGeol Under wl(ALOT):L PERmeabil (LMH):L
 INL3 (APE) :E SurGeol Surround(ALOT):O THICKness (LMH):L
 INL4 (APE) : HPOSITION (Perch,W,A) :P GW Relat (DRC) :C
 INL5 (APE) : TRAnsmissivity (LMH) :L

* NC New Castle RY Rye HA Hampton
 NH North Hampton HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 3-6) Dodge Ponds, between Rt1 & Rt84, HF
 HA004 Field Date: 05/28/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	50	0.50	T	3
Pinus strobus	White pine	5	0.18	T	3
Ulmus americana	American elm	2	0.82	T	1
Salix sp.	Willow	1	0.82	S	1
Viburnum cassinoides	Northern wild raisin	10	0.82	S	1
Cornus stolonifera	Red-osier dogwood	2	0.82	S	3
Pinus strobus	White pine	3	0.18	S	3
Alnus rugosa	Speckled alder	4	1.00	S	1
Viburnum lentago	Nannyberry	7	0.00	S	1
Prunus serotina	Black cherry	3	0.18	S	3
Rhamnus frangula	Europ. buckthorn	2	0.50	S	0
Ilex verticillata	Winterberry	20	1.00	S	1
Rhus radicans	Poison ivy	30	0.82	S	2
Viburnum recognitum	Northern arrowwood	25	0.82	S	1
Ribes sp.	Gooseberry	2		S	1
Cornus amomum	Silky dogwood	2	0.82	S	3
Lythrum salicaria	Purple loosestrife	3	1.00	H	0
Aster sp.	Asters	3		H	0
Typha latifolia	Cattail	2	1.00	H	1
Carex sp.	Sedge	3	1.00	H	3
Juncus effusus	Soft rush	2	1.00	H	0
Solidago sp.	Goldenrod	2		H	0
Iris versicolor	Blue flag	3	1.00	H	0
Impatiens capensis	Jewelweed	7	0.82	H	0
Panax trifolium	Dwarf ginseng	2	0.00	H	0
Maianthemum canadense	Canada mayflower	4	0.00	H	0
Dryopteris noveboracensis	New york fern	1	0.00	H	0
Arisaema sp.	Jack-in-the-pulpit	2		H	0
Onoclea sensibilis	Sensitive fern	30	1.00	H	0

WSI: 0.716 WVF: 0.363 BOG: 0.000 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.06 BUSHY: 0.28 COMPACT: 0.00

MARSH SBCL: ROBUST: 0.06 BROADL: 0.14 NARROW: 0.02 FLOATING: 0.00

SUBTYPES:NPRUVW

WATERSHED: Hampton Falls River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

1 Biol 56.5 :*****:*** :

2 Hydro 75.0 :*****:*****:

3 GrWat 37.7 :**** : : :

4 Flood 60.7 :**** : : :

5 ShoLi 65.5 :*****:*****:

Benefit Score 1-R-A-N-K-10

6 WQual 54.9 :*****: * :

7 Econ 73.9 :*****: ** :

8 Recr 45.2 :*****:***** :

9 Aest 59.4 :*****:***** :

10 Educ 71.4 :*****:*****:

AVERAGE DECILE OF TEN MODELS: 7.80

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: HA005 PLACE: (Photo 4-6) Dodge Ponds, E of I95, HF
 FL DATE : 06/03/86 GS&ABUN 20: Veg DENSITY (HML) : L
 GS&ABUN 1 : ACERUB40 GS&ABUN 21: wetl JUXtapos(HML): H
 GS&ABUN 2 : PINSTR 8 GS&ABUN 22: w. level FLUCtu (Hi
 GS&ABUN 3 : VACCOR12 GS&ABUN 23: Lo Vernal pool): L
 GS&ABUN 4 : VIBREC 1 GS&ABUN 24: Veg.Spec. Richness: L
 GS&ABUN 5 : CLEALN 1 GS&ABUN 25:
 GS&ABUN 6 : CARSTR 1 GS&ABUN 26: ECOLOGICAL COMPUTATIONS:
 GS&ABUN 7 : ONOSEN 5 GS&ABUN 27: WSI: 0.607
 GS&ABUN 8 : OSMCIN15 GS&ABUN 28: WFV: 0.500
 GS&ABUN 9 : OSMREG 1 GS&ABUN 29: Perc. Wild. Food: H
 GS&ABUN 10: DRYNOV 2 GS&ABUN 30: NO. of species: 10
 GS&ABUN 11: INVESTigator : MCM Prime : P
 GS&ABUN 12: Dom Wetl Class (0-11): 1 Aesthetic: 0.000
 GS&ABUN 13: SPec ELEM (ADEFHRSW): Tot ABUN: 86
 GS&ABUN 14: CLaSS Richn (1-5) : 2 Conifer? N
 GS&ABUN 15: SubTYpe Richn (ABCDE): D Trees : 0.558
 GS&ABUN 16: VEGeta Intersp (HML) : L Shrubs: 0.163
 GS&ABUN 17: Surr. HABitat (123) : 1 Herbs : 0.279
 GS&ABUN 18: Cover DISpers.(ABCDE): D Bog : 0.000
 GS&ABUN 19: Percent Open W (LMHV): H SBTY : UW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA
 Wet ID : HA005 OUTlet2 (APE) :
 2 letter TOWN codes*:SE P% Bord OW (NLMH) :H
 Topo Config (CSVH) :V FETch (LH or blank) :
 Wetl SIZE (LMH) :L DEPTH (SD or blank) :
 Dom SOil type (int) : 395 HYdr CoN (None, Stream, River
 Other SOil : 538 Lake or Combin. :R
 Dom Surround Soil : 140 ACCeSs (Rd Wat Iso) :R
 Other Surr. Soi11 : POP'n density (LMH) :L
 Other Surr. Soi12 : loc SCARCity (LMH) :M
 wetl GRAdient (LH) :L CROP (N Hay Fam Com):N
 Surr. SLOpe (LH) :H LEGAL accs (puB priV
 TOpo. POsit. (LMH) :L or Restricted) :V
 Dom Hydr Condit(1-6):2
 RIParian conn (YN) :Y
 INLet1 (Abs Perrenial
 or Ephemeral :P CALCULATED FROM OTHER DATA AND SOIL:
 INL2 (APE) : SurGeol Under wl(ALOT):L PERmeabil (LMH):M
 INL3 (APE) : SurGeol Surround(ALOT):T THICKness (LMH):M
 INL4 (APE) : HPOSITION (Perch,W,A) :W GW Relat (DRC) :C
 INL5 (APE) : TRAnsmissivity (LMH) :L
 OUTlet1 (APE) :P

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-6) Dodge Ponds, E of I95, HF
 HA005 Field Date: 06/03/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	40	0.50	T	3
Pinus strobus	White pine	8	0.18	T	3
Vaccinium corymbosum	Highbush blueberry	12	0.82	S	2
Viburnum recognitum	Northern arrowwood	1	0.82	S	1
Clethra alnifolia	Sweet pepperbush	1	0.82	S	0
Carex stricta	Tussock sedge	1	1.00	H	3
Onoclea sensibilis	Sensitive fern	5	1.00	H	0
Osmunda cinnamomea	Cinnamon fern	15	0.82	H	0
Osmunda regalis	Royal fern	1	1.00	H	0
Dryopteris noveboracensis	New york fern	2	0.00	H	0

WSI: 0.607 WFW: 0.500 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.16 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.26 NARROW: 0.01 FLOATING: 0.00
 SUBTYPES:UW

WATERSHED: Hampton Falls River TYPE: Open Freshwater Wetland

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	37.9	:*****:	6 WQual	25.4	:* : :
2 Hydro	47.3	:***:	7 Econ	13.0	:* : :
3 GrWat	43.3	:*****:	8 Recr	52.0	:*****;*****:
4 Flood	24.5	:* :	9 Aest	69.5	:*****;*****:
5 ShoLi	10.3	:*****:	10 Educ	30.1	:** : :

AVERAGE DECILE OF TEN MODELS: 4.10

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: HA006 PLACE: (Photo 4-6) W of Rt1, S of Rt88, HF

FL DATE	: 03/28/86	GS&ABUN 20:	Veg DENsity (HML) : L
GS&ABUN 1	: ACERUB20	GS&ABUN 21:	wetl JUXtapos(HML): L
GS&ABUN 2	: PINSTR 2	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3	: CEPOCC70	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4	: ROSPAL 3	GS&ABUN 24:	Veg.Spec. Richness: L
GS&ABUN 5	: ILEVER 3	GS&ABUN 25:	
GS&ABUN 6	: PYRMEL 1	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7	: pINSTR 1	GS&ABUN 27:	WSI: 0.874
GS&ABUN 8	: VACCOR 2	GS&ABUN 28:	WFV: 0.189
GS&ABUN 9	: ONOSEN 4	GS&ABUN 29:	Perc. Wild. Food: L
GS&ABUN 10:		GS&ABUN 30:	NO. of species: 9
GS&ABUN 11:		INvestigator : ASG	Prime : P
GS&ABUN 12:		Dom Wetl Class (0-11): 3	Aesthetic: 0.028
GS&ABUN 13:		SPec ELEM (ADEFHRSW):	Tot ABUN: 106
GS&ABUN 14:		CLaSs Richn (1-5) : 3	Conifer? N
GS&ABUN 15:		SubTYpe Richn (ABCDE): C	Trees : 0.208
GS&ABUN 16:		VEGeta Intersp (HML) : M	Shrubs : 0.755
GS&ABUN 17:		Surr. HABitat (123) : 2	Herbs : 0.038
GS&ABUN 18:		Cover DISpers.(ABCDE): E	Bog : 0.000
GS&ABUN 19:		Percent Open W (LMHV): L	SBTY : AUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID	: HA006	OUTlet2 (APE)	:
2 letter TOWN codes*:HF		% Bord OW (NLMH)	:L
Topo Config (CSVH)	:S	FETch (LH or blank)	:L
Wetl SIZe (LMH)	:L	DEPTH (SD or blank)	:S
Dom SOil type (int)	: 197	HYdr CoN (None, Stream, River	
Other SOil	: 538	Lake or Combin.	:S
Dom Surround Soil	: 40	ACCeSs (Rd Wat Iso)	:R
Other Surr. Soil1	: 510	POP'n density (LMH)	:M
Other Surr. Soil2	:	loc SCARCity (LMH)	:L
wetl GRAdient (LH)	:L	CROP (N Hay Fam Com):N	
Surr. SLOpe (LH)	:H	LEGAL accs (puB priV	
TOpo. POsit. (LMH)	:H	or Restricted) :V	
Dom Hydr Condit(1-6):6			
RIPArarian conn (YN)	:Y		
INLet1 (Abs Perrenial or Ephemeral	:A	CALCULATED FROM OTHER DATA AND SOIL:	
INL2 (APE)	:	SurGeol Under wl(ALOT):L	PERmeabil (LMH):M
INL3 (APE)	:	SurGeol Surround(ALOT):T	THICKness (LMH):M
INL4 (APE)	:	HPOSITION (Perch,W,A) :W	GW Relat (DRC) :C
INL5 (APE)	:	TRANsmissivity (LMH) :L	
OUTLet1 (APE)	:P		

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-6) W of Rt1, S of Rt88, HF

HA006

Field Date: 03/28/86

Report Date: 06/30/86

Scientific name	Common name	Abun-	Wetl	Type	Food
		dance	Freq		Value
Acer rubrum	Red maple	20	0.50	T	3
Pinus strobus	White pine	2	0.18	T	3
Cephalanthus occidentalis	Buttonbush	70	1.00	S	0
Rosa palustris	Marsh rose	3	1.00	S	1
Ilex verticillata	Winterberry	3	1.00	S	1
Pyrus melanocarpa	Black chokeberry	1	0.50	S	1
Pinus strobus	White pine	1	0.18	S	3
Vaccinium corymbosum	Highbush blueberry	2	0.82	S	2
Onoclea sensibilis	Sensitive fern	4	1.00	H	0

WSI: 0.874 WVF: 0.188 BOG: 0.000 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.66 SAPLINGS: 0.01 BUSHY: 0.07 COMPACT: 0.00

MARSH SBCL: ROBUST: 0.00 BROADL: 0.03 NARROW: 0.00 FLOATING: 0.00

SUBTYPES:AUW

WATERSHED: Hampton Falls River TYPE: Shallow Fresh Marsh

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

1 Biol	45.7	:*****:*	:
2 Hydro	22.3	:**:	:
3 GrWat	39.6	:*****:	:
4 Flood	59.8	:****:	:
5 ShoLi	9.31	:*****:	:

Benefit Score 1-R-A-N-K-10

6 WQual	53.9	:*****:*	:
7 Econ	47.8	:**:	:
8 Recr	28.7	:***:	:
9 Aest	50.7	:*****:*****:	:
10 Educ	46.0	:*****:*	:

AVERAGE DECILE OF TEN MODELS: 4.60

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: HA007 PLACE: (Photo 4-6) Dodge Ponds, W of I95, HF

FL DATE : 06/03/86	GS&ABUN 20:	Veg DENsity (HML) : L
GS&ABUN 1 : ACERUB20	GS&ABUN 21:	wetl JUXtapos(HML): M
GS&ABUN 2 : TILAME 1	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : ULMAME 2	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : FRAAME 2	GS&ABUN 24:	Veg.Spec. Richness: M
GS&ABUN 5 : CORAMO 1	GS&ABUN 25:	
GS&ABUN 6 : sALIX 1	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : ILEVER 1	GS&ABUN 27:	WSI: 0.680
GS&ABUN 8 : VACCOR 3	GS&ABUN 28:	WFV: 0.417
GS&ABUN 9 : RHAFRA 1	GS&ABUN 29:	Perc. Wild. Food: H
GS&ABUN 10: CLEALN 3	GS&ABUN 30:	NO. of species: 17
GS&ABUN 11: OSMCIN 3	INvestigator : MCM	Prime : P
GS&ABUN 12: OSMREG 1	Dom Wetl Class (0-11): 1	Aesthetic: 0.029
GS&ABUN 13: CARSTR 3	SPec ELEM (ADEFHRSW):	Tot ABUN: 51
GS&ABUN 14: DRYSPI 2	CLaSs Richn (1-5) : 3	Conifer? N
GS&ABUN 15: ONOSEN 5	SubTYpe Richn (ABCDE): D	Trees : 0.490
GS&ABUN 16: THAPOL 1	VEGeta Intersp (HML) : H	Shrubs : 0.196
GS&ABUN 17: IRIS 1	Surr. HABitat (123) : 1	Herbs : 0.314
GS&ABUN 18:	Cover DISpers.(ABCDE): B	Bog : 0.000
GS&ABUN 19:	Percent Open W (LMHV): H	SBTY : NUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : HA007	OUTlet2 (APE) :
2 letter TOWN codes*:SE	P% Bord OW (NLMH) :H
Topo Config (CSVH) :V	FETch (LH or blank) :
Wetl SIZE (LMH) :M	DEPTH (SD or blank) :
Dom SOil type (int) : 395	HYdr CoN (None, Stream, River
Other SOil :	Lake or Combin. :R
Dom Surround Soil : 38	ACCeSS (Rd Wat Iso) :R
Other Surr. Soill1 : 140	POP'n density (LMH) :L
Other Surr. Soill2 : 510	loc SCARCity (LMH) :L
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :H	LEGAL accs (puB priV
TOpo. P0sit. (LMH) :M	or Restricted) :V
Dom Hydr Condit(1-6):3	
RIPArarian conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :P	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :	SurGeol Under wl(ALOT):L PERmeabil (LMH):M
INL3 (APE) :	SurGeol Surround(ALOT):L THICKness (LMH):M
INL4 (APE) :	HPOsition (Perch,W,A) :W GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTlet1 (APE) :P	

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-6) Dodge Ponds, W of I95, HF
 HA007 Field Date: 06/03/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	20	0.50	T	3
Tilia americana	Basswood	1	0.18	T	1
Ulmus americana	American elm	2	0.82	T	1
Fraxinus americana	White ash	2	0.50	T	1
Cornus amomum	Silky dogwood	1	0.82	S	3
Salix sp.	Willow	1	0.82	S	1
Ilex verticillata	Winterberry	1	1.00	S	1
Vaccinium corymbosum	Highbush blueberry	3	0.82	S	2
Rhamnus frangula	Europ. buckthorn	1	0.50	S	0
Clethra alnifolia	Sweet pepperbush	3	0.82	S	0
Osmunda cinnamomea	Cinnamon fern	3	0.82	H	0
Osmunda regalis	Royal fern	1	1.00	H	0
Carex stricta	Tussock sedge	3	1.00	H	3
Dryopteris spinulosa	Spinulose shieldfern	2	0.82	H	0
Onoclea sensibilis	Sensitive fern	5	1.00	H	0
Thalictrum polygamum	Tall meadow-rue	1	0.00	H	0
Iris sp.	Iris	1		H	0

WSI: 0.679 WFV: 0.416 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.01 BUSHY: 0.17 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.01 BROADL: 0.21 NARROW: 0.05 FLOATING: 0.00
 SUBTYPES:NUW

WATERSHED: Hampton Falls River TYPE: Open Freshwater Wetland

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	51.9	:*****:** :	6 WQual	31.3	:* : :
2 Hydro	59.2	:*****: * :	7 Econ	30.4	:* : :
3 GrWat	49.0	:*****: * :	8 Recr	67.1	:*****:*****:
4 Flood	34.3	:* : :	9 Aest	69.5	:*****:*****:
5 ShoLi	10.3	:*****: :	10 Educ	41.2	:***** : :

AVERAGE DECILE OF TEN MODELS: 5.10

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: HA008 PLACE: (Photo 4-6) Cock Hill Rd, near jct with Rt88, HF
 FL DATE : 03/27/86 GS&ABUN 20: Veg DENSITY (HML) : M
 GS&ABUN 1 : ACERUB65 GS&ABUN 21: wetl JUXtapos(HML): L
 GS&ABUN 2 : BETLEN10 GS&ABUN 22: w. level FLUCtu (Hi
 GS&ABUN 3 : ULMAME10 GS&ABUN 23: Lo Vernal pool): L
 GS&ABUN 4 : PINSTR 3 GS&ABUN 24: Veg.Spec. Richness: M
 GS&ABUN 5 : ILEVER25 GS&ABUN 25:
 GS&ABUN 6 : VIBREC20 GS&ABUN 26: ECOLOGICAL COMPUTATIONS:
 GS&ABUN 7 : ALNRUG15 GS&ABUN 27: WSI: 0.697
 GS&ABUN 8 : SPILAT 3 GS&ABUN 28: WFV: 0.403
 GS&ABUN 9 : ROSPAL 4 GS&ABUN 29: Perc. Wild. Food: H
 GS&ABUN 10: RHAFRA12 GS&ABUN 30: NO. of species: 11
 GS&ABUN 11: ONOSEN18 INVESTIGATOR : ASG Prime:
 GS&ABUN 12: Dom Wetl Class (0-11): 7 Aesthetic: 0.078
 GS&ABUN 13: SPec ELEM (ADEFHRSW): Tot ABUN: 185
 GS&ABUN 14: CLaSs Richn (1-5) : 2 Conifer? N
 GS&ABUN 15: SubTYpe Richn (ABCDE): D Trees : 0.476
 GS&ABUN 16: VEGeta Intersp (HML) : L Shrubs: 0.427
 GS&ABUN 17: Surr. HABitat (123) : 2 Herbs : 0.097
 GS&ABUN 18: Cover DISpers.(ABCDE): E Bog : 0.000
 GS&ABUN 19: Percent Open W (LMHV): L SBTY : UW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA
 Wet ID : HA008 OUTlet2 (APE) :
 2 letter TOWN codes*:HF P% Bord OW (NLMH) :N
 Topo Config (CSVH) :S FETch (LH or blank) :
 Wetl SIZE (LMH) :M DEPTH (SD or blank) :
 Dom SOil type (int) : 546 HYdr CoN (None, Stream, River
 Other SOil : Lake or Combin. :S
 Dom Surround Soil : 40 ACCeSS (Rd Wat Iso) :R
 Other Surr. Soill : 47 POP'n density (LMH) :M
 Other Surr. Soil2 : loc SCARCity (LMH) :L
 wetl GRAdient (LH) :H CROP (N Hay Fam Com):N
 Surr. SLOpe (LH) :H LEGAL accs (puB priV
 TOpo. P0sit. (LMH) :H or Restricted) :V
 Dom Hydr Condit(1-6):5
 RIParian conn (YN) :Y
 INLet1 (Abs Perrenial
 or Ephemeral :A CALCULATED FROM OTHER DATA AND SOIL:
 INL2 (APE) : SurGeol Under wl(ALOT):T PERmeabil (LMH):H
 INL3 (APE) : SurGeol Surround(ALOT):T THICKness (LMH):L
 INL4 (APE) : HPOSITION (Perch,W,A) :W GW Relat (DRC) :C
 INL5 (APE) : TRAnsmissivity (LMH) :L
 OUTlet1 (APE) :P

* NC New Castle RY Rye HA Hampton
 NH North Hampton HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-6) Cock Hill Rd, near jct with Rt88, HF
 HA008 Field Date: 03/27/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	65	0.50	T	3
Betula lenta	Sweet birch	10	0.18	T	2
Ulmus americana	American elm	10	0.82	T	1
Pinus strobus	White pine	3	0.18	T	3
Ilex verticillata	Winterberry	25	1.00	S	1
Viburnum recognitum	Northern arrowwood	20	0.82	S	1
Alnus rugosa	Speckled alder	15	1.00	S	1
Spiraea latifolia	Meadowsweet	3	0.50	S	0
Rosa palustris	Marsh rose	4	1.00	S	1
Rhamnus frangula	Europ. buckthorn	12	0.50	S	0
Onoclea sensibilis	Sensitive fern	18	1.00	H	0

WSI: 0.696 WFV: 0.402 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.41 COMPACT: 0.01
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.09 NARROW: 0.00 FLOATING: 0.00
 SUBTYPES: UW

WATERSHED: Hampton Falls River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10
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1 Biol	31.0	:*** : :
2 Hydro	55.2	:*****: :
3 GrWat	39.6	:****: :
4 Flood	61.7	:*****: :
5 ShoLi	0.00	:** : :

Benefit	Score	1-R-A-N-K-10
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6 WQual	48.0	:**** : :
7 Econ	73.9	:*****: ** :
8 Recr	32.8	:**** : :
9 Aest	34.7	:*** : :
10 Educ	33.3	:*** : :

AVERAGE DECILE OF TEN MODELS: 3.80

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: HA009 PLACE: (Photo 4-6) S of Rt88, between I95 & Rt1, HF

FL DATE	: 03/28/86	GS&ABUN 20:	Veg DENsity (HML) : M
GS&ABUN 1	: ACERUB18	GS&ABUN 21:	wetl JUXtapos(HML): L
GS&ABUN 2	: BETPOP 3	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3	: CEPOCC 3	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4	: ALNRUG10	GS&ABUN 24:	Veg.Spec. Richness: M
GS&ABUN 5	: VACCOR 3	GS&ABUN 25:	
GS&ABUN 6	: CLEALN 3	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7	: pINSTR 3	GS&ABUN 27:	WSI: 0.707
GS&ABUN 8	: aCERUB15	GS&ABUN 28:	WFV: 0.435
GS&ABUN 9	: SPITOM 5	GS&ABUN 29:	Perc. Wild. Food: H
GS&ABUN 10	: VACMAC 8	GS&ABUN 30:	NO. of species: 12
GS&ABUN 11	: SPHAGN10	INVESTigator : ASG	Prime : P
GS&ABUN 12	: PHRCOM 3	Dom Wetl Class (0-11): 6	Aesthetic: 0.048
GS&ABUN 13		SPec ELem (ADEFHRSW):	Tot ABUN: 84
GS&ABUN 14		CLaSs Richn (1-5) : 4	Conifer? N
GS&ABUN 15		SubTYpe Richn (ABCDE): C	Trees : 0.250
GS&ABUN 16		VEGeta Intersp (HML) : M	Shrubs: 0.595
GS&ABUN 17		Surr. HABitat (123) : 1	Herbs : 0.155
GS&ABUN 18		Cover DISpers.(ABCDE): D	Bog : 0.214
GS&ABUN 19		Percent Open W (LMHV): L	SBTY : ACMPRU

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID	: HA009	OUTlet2 (APE)	:
2 letter TOWN codes*:HF		P% Bord OW (NLMH)	:L
Topo Config (CSVH)	:C	FETch (LH or blank)	:L
Wetl SIZE (LMH)	:L	DEPTH (SD or blank)	:S
Dom SOil type (int)	: 95	HYdr CoN (None, Stream, River	
Other SOil	: 298	Lake or Combin.	:N
Dom Surround Soil	: 510	ACCeSS (Rd Wat Iso)	:R
Other Surr. Soill	: 38	POP'n density (LMH)	:M
Other Surr. Soil2	: 40	loc SCARCity (LMH)	:L
wetl GRAdient (LH)	:L	CROP (N Hay Fam Com)	:N
Surr. SLOpe (LH)	:H	LEGAL accs (puB priV	
TOpo. POsit. (LMH)	:H	or Restricted)	:V
Dom Hydr Condit(1-6):6			
RIParian conn (YN)	:N		
INLet1 (Abs Perrenial		CALCULATED FROM OTHER DATA AND SOIL:	
or Ephemeral	:A	SurGeol Under wl(ALOT):O	PERmeabil (LMH):M
INL2 (APE)	:	SurGeol Surround(ALOT):O	THICKness (LMH):H
INL3 (APE)	:	HPOSITION (Perch,W,A) :W	GW Relat (DRC) :R
INL4 (APE)	:	TRANsmissivity (LMH) :H	
INL5 (APE)	:		
OUTlet1 (APE)	:A		

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-6) S of Rt88, between I95 & Rt1, HF
 HA009 Field Date: 03/28/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	18	0.50	T	3
Betula populifolia	Grey birch	3	0.50	T	2
Cephalanthus occidentalis	Buttonbush	3	1.00	S	0
Alnus rugosa	Speckled alder	10	1.00	S	1
Vaccinium corymbosum	Highbush blueberry	3	0.82	S	2
Clethra alnifolia	Sweet pepperbush	3	0.82	S	0
Pinus strobus	White pine	3	0.18	S	3
Acer rubrum	Red maple	15	0.50	S	3
Spiraea tomentosa	Steeplebush	5	0.50	S	0
Vaccinium macrocarpon	Large cranberry	8	1.00	S	2
Sphagnum sp.	Sphagnum moss	10	1.00	H	0
Phragmites communis	Reed	3	0.82	H	0

WSI: 0.707 WVF: 0.434 BOG: 0.214 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.03 SAPLINGS: 0.21 BUSHY: 0.19 COMPACT: 0.15
 MARSH SBCL: ROBUST: 0.03 BROADL: 0.00 NARROW: 0.00 FLOATING: 0.00
 SUBTYPES:ACMPRU

WATERSHED: Hampton Falls River TYPE: Shrub Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	53.4	:*****:*** :	6 WQual	51.9	:*****:
2 Hydro	7.89	:* : :	7 Econ	39.1	:** :
3 GrWat	64.1	:*****:**** :	8 Recr	20.5	:* :
4 Flood	60.7	:***** :	9 Aest	36.2	:*****:
5 ShoLi	14.4	:*****:*	10 Educ	53.9	:*****:** :

AVERAGE DECILE OF TEN MODELS: 4.70

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
WID: HA010 PLACE: (Photo 4-6) N of Rt84, W of I95, HF

FL DATE : 06/03/86	GS&ABUN 20: ONOSEN12	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB55	GS&ABUN 21: EQUARV 3	wetl JUXtapos(HML): L
GS&ABUN 2 : PINSTR20	GS&ABUN 22: SOLIDA 2	w. level FLUCtu (Hi
GS&ABUN 3 : uLMAME 2	GS&ABUN 23: IRIPRI 1	Lo Vernal pool): H
GS&ABUN 4 : POPTRE 1	GS&ABUN 24: GERMAC 1	Veg.Spec. Richness: M
GS&ABUN 5 : JUNVIR 1	GS&ABUN 25: OSMREG 1	
GS&ABUN 6 : uLMAME 1	GS&ABUN 26: MAICAN 3	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : VIBCAS 1	GS&ABUN 27: ARANUD 1	WSI: 0.543
GS&ABUN 8 : aCERUB 5	GS&ABUN 28: TRIBOR 1	WFV: 0.489
GS&ABUN 9 : sALIX 1	GS&ABUN 29: COPGRO 2	Perc. Wild. Food: H
GS&ABUN 10: VACCOR 1	GS&ABUN 30: DRYSPI 2	NO. of species: 30
GS&ABUN 11: SPILAT 2	INVESTigator : MCM	Prime :
GS&ABUN 12: RHAFRA 2	Dom Wetl Class (0-11): 7	Aesthetic: 0.015
GS&ABUN 13: CLEALN 1	SPec ELEM (ADEFHRSW):	Tot ABUN: 134
GS&ABUN 14: VIBREC 2	CLaSS Richn (1-5) : 1	Conifer? N
GS&ABUN 15: ALNRUG 3	SubTYpe Richn (ABCDE): D	Trees : 0.590
GS&ABUN 16: ILEVER 1	VEGeta Intersp (HML) : M	Shrubs: 0.172
GS&ABUN 17: RHURAD 3	Surr. HABitat (123) : 1	Herbs : 0.239
GS&ABUN 18: DRYTHE 1	Cover DISpers.(ABCDE): E	Bog : 0.000
GS&ABUN 19: OSMCIN 2	Percent Open W (LMHV): L	SBTY : NPUVV

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : HA010	OUTlet2 (APE) :
2 letter TOWN codes*:SE	P% Bord OW (NLMH) :N
Topo Config (CSVH) :C	FETch (LH or blank) :
Wetl SIZe (LMH) :M	DEPTH (SD or blank) :
Dom SOil type (int) : 32	HYdr CoN (None, Stream, River
Other SOil : 538	Lake or Combin. :N
Dom Surround Soil : 140	ACCeSS (Rd Wat Iso) :I
Other Surr. Soil1 : 510	POP'n density (LMH) :L
Other Surr. Soil2 :	loc SCARCity (LMH) :L
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :H	LEGAL accs (pub priV
TOpo. POsit. (LMH) :H	or Restricted) :V
Dom Hydr Condit(1-6):6	
RIPArarian conn (YN) :N	
INLet1 (Abs Perrenial or Ephemeral :A	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):T THICKness (LMH):L
INL4 (APE) :	HPOsition (Perch,W,A) :W GW Relat (DRC) :R
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTLet1 (APE) :A	

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-6) N of Rt84, W of I95, HF

HA010

Field Date: 06/03/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	55	0.50	T	3
Pinus strobus	White pine	20	0.18	T	3
Ulmus americana	American elm	2	0.82	T	1
Populus tremuloides	Quaking aspen	1	0.00	T	2
Juniperus virginiana	Red cedar	1	0.18	T	1
Ulmus americana	American elm	1	0.82	S	1
Viburnum cassinoides	Northern wild raisin	1	0.82	S	1
Acer rubrum	Red maple	5	0.50	S	3
Salix sp.	Willow	1	0.82	S	1
Vaccinium corymbosum	Highbush blueberry	1	0.82	S	2
Spiraea latifolia	Meadowsweet	2	0.50	S	0
Rhamnus frangula	Europ. buckthorn	2	0.50	S	0
Clethra alnifolia	Sweet pepperbush	1	0.82	S	0
Viburnum recognitum	Northern arrowwood	2	0.82	S	1
Alnus rugosa	Speckled alder	3	1.00	S	1
Ilex verticillata	Winterberry	1	1.00	S	1
Rhus radicans	Poison ivy	3	0.82	S	2
Dryopteris thelypteris	Marsh fern	1	1.00	H	0
Osmunda cinnamomea	Cinnamon fern	2	0.82	H	0
Onoclea sensibilis	Sensitive fern	12	1.00	H	0
Equisetum arvense	Common horsetail	3	0.50	H	0
Solidago sp.	Goldenrod	2		H	0
Iris prismatica	Slender blue flag	1	1.00	H	0
Geranium maculatum	Wild cranesbill	1	0.18	H	0
Osmunda regalis	Royal fern	1	1.00	H	0
Maianthemum canadense	Canada mayflower	3	0.00	H	0
Aralia nudicaulis	Wild sarsaparilla	1	0.00	H	0
Trientalis borealis	Starflower	1	0.50	H	0
Coptis groenlandica	Goldthread	2	0.82	H	0
Dryopteris spinulosa	Spinulose shieldfern	2	0.82	H	0

WSI: 0.543 WFW: 0.488 BOG: 0.000 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.05 BUSHY: 0.08 COMPACT: 0.01

MARSH SBCL: ROBUST: 0.00 BROADL: 0.14 NARROW: 0.02 FLOATING: 0.00

SUBTYPES:NPUUV

WATERSHED: Hampton Falls River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10
1 Biol	31.0	:** : :
2 Hydro	5.26	:* : :
3 GrWat	54.7	:*****:*** :
4 Flood	66.6	:*****:*** :
5 Sholi	0.00	:** : :

Benefit	Score	1-R-A-N-K-10
6 WQual	46.0	:** : :
7 Econ	60.8	:*****:
8 Recr	24.6	:** : :
9 Aest	26.0	:* : :
10 Educ	20.6	:* : :

AVERAGE DECILE OF TEN MODELS: 3.20

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: HA011 PLACE: (Photo 4-4) Hampton Falls River, S of Rt84, W of I95, HF SE

FL DATE : 04/03/86	GS&ABUN 20: fRAAME 1	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB30	GS&ABUN 21: LYOLIG 1	wetl JUXtapos(HML): H
GS&ABUN 2 : QUEBIC 1	GS&ABUN 22: RUBHIS 1	w. level FLUCtu (Hi
GS&ABUN 3 : PINSTR14	GS&ABUN 23: CARSTR20	Lo Vernal pool): L
GS&ABUN 4 : TSUCAN 5	GS&ABUN 24: COPGRO 4	Veg.Spec. Richness: H
GS&ABUN 5 : NYSSYL 1	GS&ABUN 25: ONOSEN 5	
GS&ABUN 6 : JUNVIR 1	GS&ABUN 26: SPHAGN 2	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : aCERUB22	GS&ABUN 27: LYTSAL 1	WSI: 0.640
GS&ABUN 8 : pINSTR 3	GS&ABUN 28: CAREXA 1	WFV: 0.578
GS&ABUN 9 : ILEVER 2	GS&ABUN 29: TYPLAT 1	Perc. Wild. Food: H
GS&ABUN 10: VIBREC 4	GS&ABUN 30: ASTER 1	NO. of species: 30
GS&ABUN 11: VACCOR10	INVESTigator : MCM	Prime : P
GS&ABUN 12: CORAMO 2	Dom Wetl Class (0-11): 7	Aesthetic: 0.021
GS&ABUN 13: SALDIS 1	SPec ELem (ADEFHRSW):	Tot ABUN: 141
GS&ABUN 14: SPILAT 2	CLaSs Richn (1-5) : 3	Conifer? N
GS&ABUN 15: ALNRUG 1	SubTYpe Richn (ABCDE): C	Trees : 0.369
GS&ABUN 16: ROSPAL 1	VEGeta Intersp (HML) : H	Shrubs: 0.379
GS&ABUN 17: VACANG 1	Surr. HABitat (123) : 1	Herbs : 0.252
GS&ABUN 18: tSUCAN 1	Cover DISpers.(ABCDE): D	Bog : 0.014
GS&ABUN 19: RHURAD 1	Percent Open W (LMHV): L	SBTY : CMNPUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : HA011	OUTlet2 (APE) :
2 letter TOWN codes*: HA HF	P% Bord OW (NLMH) : L
Topo Config (CSVH) : S	FETch (LH or blank) :
Wetl SIze (LMH) : H	DEPTH (SD or blank) :
Dom SOil type (int) : 395	HYdr CoN (None, Stream, River
Other SOil : 134	Lake or Combin. : R
Dom Surround Soil : 538	ACCeSs (Rd Wat Iso) : R
Other Surr. Soill1 : 533	POP'n density (LMH) : L
Other Surr. Soil2 : 32	loc SCARCity (LMH) : L
wetl GRAdient (LH) : L	CROP (N Hay Fam Com): N
Surr. SLOpe (LH) : L	LEGAL acc's (pub priV
TOpo. POsit. (LMH) : M	or Restricted) : V
Dom Hydr Condit(1-6): 5	
RIPArarian conn (YN) : Y	
INLet1 (Abs Perrenial or Ephemerall : P	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) : P	SurGeol Under wl(ALOT): L PERmeabil (LMH): M
INL3 (APE) : P	SurGeol Surround(ALOT): L THICKness (LMH): M
INL4 (APE) : P	HPOSITION (Perch,W,A) : W GW Relat (DRC) : C
INL5 (APE) : P	TRANsmissivity (LMH) : L
OUTLet1 (APE) : P	

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-4) Hampton Falls River, S of Rt84, W of I95, HF SE
 HA011 Field Date: 04/03/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	30	0.50	T	3
Quercus bicolor	Swamp white oak	1	1.00	T	4
Pinus strobus	White pine	14	0.18	T	3
Tsuga canadensis	Hemlock	5	0.50	T	1
Nyssa sylvatica	Black gum, tupelo	1	0.82	T	1
Juniperus virginiana	Red cedar	1	0.18	T	1
Acer rubrum	Red maple	22	0.50	S	3
Pinus strobus	White pine	3	0.18	S	3
Ilex verticillata	Winterberry	2	1.00	S	1
Viburnum recognitum	Northern arrowwood	4	0.82	S	1
Vaccinium corymbosum	Highbush blueberry	10	0.82	S	2
Cornus amomum	Silky dogwood	2	0.82	S	3
Salix discolor	Pussy willow	1	0.82	S	1
Spiraea latifolia	Meadowsweet	2	0.50	S	0
Alnus rugosa	Speckled alder	1	1.00	S	1
Rosa palustris	Marsh rose	1	1.00	S	1
Vaccinium angustifolium	Late sweet blueberry	1	0.50	S	2
Tsuga canadensis	Hemlock	1	0.50	S	1
Rhus radicans	Poison ivy	1	0.82	S	2
Fraxinus americana	White ash	1	0.50	S	1
Lyonia ligustrina	Maleberry	1	1.00	S	0
Rubus hispida	Trailing bramble	1	0.50	B	3
Carex stricta	Tussock sedge	20	1.00	H	3
Coptis groenlandica	Goldthread	4	0.82	H	0
Onoclea sensibilis	Sensitive fern	5	1.00	H	0
Sphagnum sp.	Sphagnum moss	2	1.00	H	0
Lythrum salicaria	Purple loosestrife	1	1.00	H	0
Carex sp. (A)	A Sedge	1	1.00	H	3
Typha latifolia	Cattail	1	1.00	H	1
Aster sp.	Asters	1		H	0

WSI: 0.640 WVF: 0.578 BOG: 0.014 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.19 BUSHY: 0.14 COMPACT: 0.02

MARSH SBCL: ROBUST: 0.01 BROADL: 0.06 NARROW: 0.14 FLOATING: 0.00

SUBTYPES: CMNPUW

WATERSHED: Hampton Falls River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

Benefit Score 1-R-A-N-K-10

1 Biol 63.5 :*****;**** :

2 Hydro 76.3 :*****;*****:

3 GrWat 66.0 :*****;**** :

4 Flood 69.6 :*****;*****:

5 SholI 17.5 :*****;** :

6 WQual 70.5 :*****;*****:

7 Econ 91.3 :*****;*****:

8 Recr 60.2 :*****;*****:

9 Aest 39.1 :*****; :

10 Educ 61.9 :*****;*** :

AVERAGE DECILE OF TEN MODELS: 8.80

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: HA028 PLACE: (Photo 5-4) Winkley Brook, HF

FL DATE : 06/04/86	GS&ABUN 20: TYPLAT 3	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB40	GS&ABUN 21: SYMFOE 2	wetl JUXtapos(HML): H
GS&ABUN 2 : ULMAME 3	GS&ABUN 22: ATHFIL 3	w. level FLUCtu (Hi
GS&ABUN 3 : JUNVIR 1	GS&ABUN 23: GALASP 2	Lo Vernal pool): L
GS&ABUN 4 : PINSTR 6	GS&ABUN 24: EQUSYL 2	Veg.Spec. Richness: H
GS&ABUN 5 : pOPGRA 2	GS&ABUN 25: OSMREG 2	
GS&ABUN 6 : aCERUB 5	GS&ABUN 26: CAREX 15	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : CORAMO 8	GS&ABUN 27: SOLIDA 2	WSI: 0.725
GS&ABUN 8 : RHURAD 5	GS&ABUN 28: FRAVIR 1	WFV: 0.414
GS&ABUN 9 : ALNRUG 7	GS&ABUN 29: JUNEFF 2	Perc. Wild. Food: H
GS&ABUN 10: VIBREC 8	GS&ABUN 30: THAPOL 1	NO. of species: 30
GS&ABUN 11: ROSPAL 8	INvestigator : GS	Prime : P
GS&ABUN 12: SPILAT 5	Dom Wetl Class (0-11): 7	Aesthetic: 0.038
GS&ABUN 13: RHAFRA 5	SPec ELEM (ADEFHRSW):	Tot ABUN: 195
GS&ABUN 14: VIBCAS 4	CLaSs Richn (1-5) : 3	Conifer? N
GS&ABUN 15: RUBALL 3	SubTYpe Richn (ABCDE): C	Trees : 0.256
GS&ABUN 16: POa 20	VEGeta Intersp (HML) : M	Shrubs: 0.300
GS&ABUN 17: ONOSEN15	Surr. HABitat (123) : 1	Herbs : 0.444
GS&ABUN 18: CARSTR 8	Cover DISpers.(ABCDE): D	Bog : 0.000
GS&ABUN 19: IMPCAP 7	Percent Open W (LMHV): L	SBTY : CNPRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : HA028	OUTlet2 (APE) :
2 letter TOWN codes*: HA	P% Bord OW (NLMH) : L
Topo Config (CSVH) : S	FETch (LH or blank) :
Wetl SIZe (LMH) : H	DEPTH (SD or blank) :
Dom SOil type (int) : 134	HYdr CoN (None, Stream, River
Other SOil : 33	Lake or Combin. : S
Dom Surround Soil : 38	ACCeSs (Rd Wat Iso) : R
Other Surr. Soi11 : 510	POP'n density (LMH) : L
Other Surr. Soi12 : 32	loc SCARCity (LMH) : M
wetl GRAdient (LH) : L	CROP (N Hay Fam Com): N
Surr. SLOpe (LH) : H	LEGAL accs (puB priV
TOpo. P0sit. (LMH) : M	or Restricted) : V
Dom Hydr Condit(1-6): 5	
RIParian conn (YN) : Y	
INLet1 (Abs Perrenial or Ephemeral : P	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) : E	SurGeol Under wl(ALOT): L PERmeabil (LMH): L
INL3 (APE) : E	SurGeol Surround(ALOT): L THICKness (LMH): L
INL4 (APE) :	HPOSITION (Perch,W,A) : W GW Relat (DRC) : C
INL5 (APE) :	TRAnsmissivity (LMH) : L
OUTLet1 (APE) : P	

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 5-4) Winkley Brook, HF
HA028 Field Date: 06/04/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	40	0.50	T	3
Ulmus americana	American elm	3	0.82	T	1
Juniperus virginiana	Red cedar	1	0.18	T	1
Pinus strobus	White pine	6	0.18	T	3
Populus grandidentata	Large-toothed aspen	2	0.18	S	2
Acer rubrum	Red maple	5	0.50	S	3
Cornus amomum	Silky dogwood	8	0.82	S	3
Rhus radicans	Poison ivy	5	0.82	S	2
Alnus rugosa	Speckled alder	7	1.00	S	1
Viburnum recognitum	Northern arrowwood	8	0.82	S	1
Rosa palustris	Marsh rose	8	1.00	S	1
Spiraea latifolia	Meadowsweet	5	0.50	S	0
Rhamnus frangula	Europ. buckthorn	5	0.50	S	0
Viburnum cassinoides	Northern wild raisin	4	0.82	S	1
Rubus allegheniensis	Blackberry	3	0.00	B	3
Poaceae	Grasses	20		H	1
Onoclea sensibilis	Sensitive fern	15	1.00	H	0
Carex stricta	Tussock sedge	8	1.00	H	3
Impatiens capensis	Jewelweed	7	0.82	H	0
Typha latifolia	Cattail	3	1.00	H	1
Symplocarpus foetidus	Skunk cabbage	2	1.00	H	0
Athyrium filix-femina	Lady fern	3	0.50	H	0
Galium asprellum	Rough bedstraw	2	1.00	H	0
Equisetum sylvaticum	Wood horsetail	2	0.82	H	0
Osmunda regalis	Royal fern	2	1.00	H	0
Carex sp.	Sedge	15	1.00	H	3
Solidago sp.	Goldenrod	2		H	0
Fragaria virginiana	Strawberry	1	0.50	H	0
Juncus effusus	Soft rush	2	1.00	H	0
Thalictrum polygamum	Tall meadow-rue	1	0.00	H	0

WSI: 0.725 WVF: 0.414 BOG: 0.000 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.03 BUSHY: 0.20 COMPACT: 0.02

MARSH SBCL: ROBUST: 0.05 BROADL: 0.11 NARROW: 0.25 FLOATING: 0.00

SUBTYPES: CNPRUVW

WATERSHED: Hampton Falls River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

1 Biol	59.6	:*****:***:
2 Hydro	71.0	:*****:****:
3 GrWat	64.1	:*****:****:
4 Flood	64.7	:*****:**:
5 ShoLi	17.5	:*****:**:

Benefit Score 1-R-A-N-K-10

6 WQual	60.7	:*****:***:
7 Econ	91.3	:*****:*****:
8 Recr	52.0	:*****:*****:
9 Aest	43.4	:*****:**:
10 Educ	66.6	:*****:****:

AVERAGE DECILE OF TEN MODELS: 8.40

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: HA030 PLACE: (Photo 4-4) Lamprey Rd, S of Great Hill, HF

FL DATE	: 06/04/86	GS&ABUN 20:	Veg DENsity (HML) :	M
GS&ABUN 1	: ACERUB55	GS&ABUN 21:	wetl JUXTapos(HML):	M
GS&ABUN 2	: PINSTR 5	GS&ABUN 22:	w. level FLUCtu (Hi	
GS&ABUN 3	: RHAFRA 5	GS&ABUN 23:	Lo Vernal pool):	L
GS&ABUN 4	: aCERUB 5	GS&ABUN 24:	Veg.Spec. Richness:	M
GS&ABUN 5	: SPILAT 6	GS&ABUN 25:		
GS&ABUN 6	: VACCOR 4	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:	
GS&ABUN 7	: SAMCAN 1	GS&ABUN 27:	WSI:	0.666
GS&ABUN 8	: jUNVIR 1	GS&ABUN 28:	WFV:	0.333
GS&ABUN 9	: LYOLIG 2	GS&ABUN 29:	Perc. Wild. Food:	M
GS&ABUN 10	: ILEVER 3	GS&ABUN 30:	NO. of species:	17
GS&ABUN 11	: RHURAD 6	INVESTigator :	Prime :	
GS&ABUN 12	: VIBREC 8	Dom Wetl Class (0-11):	Aesthetic:	0.009
GS&ABUN 13	: OSMCIN30	SPec ELem (ADEFHRSW):	Tot ABUN:	171
GS&ABUN 14	: ONOSEN30	CLaSs Richn (1-5) :	Conifer? N	
GS&ABUN 15	: UVUSES 2	SubTYpe Richn (ABCDE):	Trees :	0.351
GS&ABUN 16	: EQUSYL 3	VEGeta Intersp (HML) :	Shrubs:	0.240
GS&ABUN 17	: MAICAN 5	Surr. HABitat (123) :	Herbs :	0.409
GS&ABUN 18		Cover DISpers.(ABCDE):	Bog :	0.000
GS&ABUN 19		Percent Open W (LMHV):	SBTY :	CPUVV

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID	: HA030	OUTlet2 (APE)	:
2 letter TOWN codes*:	HF	% Bord OW (NLMH)	:N
Topo Config (CSVH)	:S	FETch (LH or blank)	:
Wetl SIZE (LMH)	:M	DEPTH (SD or blank)	:
Dom SOil type (int)	: 538	HYdr CoN (None, Stream, River	
Other Soil	:	Lake or Combin.	:S
Dom Surround Soil	: 29	ACCeSs (Rd Wat Iso)	:R
Other Surr. Soill1	: 40	POP'n density (LMH)	:L
Other Surr. Soill2	:	loc SCARCity (LMH)	:L
wetl GRAdient (LH)	:L	CROP (N Hay Fam Com)	:N
Surr. SLOpe (LH)	:H	LEGAL accs (puB priV	
TOpo. P0sit. (LMH)	:H	or Restricted)	:V
Dom Hydr Condit(1-6):	5		
RIPArarian conn (YN)	:Y		
INLet1 (Abs Perrenial or Ephemerall	:E	CALCULATED FROM OTHER DATA AND SOIL:	
INL2 (APE)	:	SurGeol Under wl(ALOT):	L PERmeabil (LMH):L
INL3 (APE)	:	SurGeol Surround(ALOT):	T THICKness (LMH):L
INL4 (APE)	:	HPOSITION (Perch,W,A) :	P GW Relat (DRC) :C
INL5 (APE)	:	TRANsmissivity (LMH)	:L
OUTLet1 (APE)	:P		

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 4-4) Lamprey Rd, S of Great Hill, HF
 HA030 Field Date: 06/04/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	55	0.50	T	3
Pinus strobus	White pine	5	0.18	T	3
Rhamnus frangula	Europ. buckthorn	5	0.50	S	0
Acer rubrum	Red maple	5	0.50	S	3
Spiraea latifolia	Meadowsweet	6	0.50	S	0
Vaccinium corymbosum	Highbush blueberry	4	0.82	S	2
Sambucus canadensis	Elderberry	1	0.18	S	1
Juniperus virginiana	Red cedar	1	0.18	S	1
Lyonia ligustrina	Maleberry	2	1.00	S	0
Ilex verticillata	Winterberry	3	1.00	S	1
Rhus radicans	Poison ivy	6	0.82	S	2
Viburnum recognitum	Northern arrowwood	8	0.82	S	1
Osmunda cinnamomea	Cinnamon fern	30	0.82	H	0
Onoclea sensibilis	Sensitive fern	30	1.00	H	0
Uvularia sessilifolia	Sessile bellwort	2	0.18	H	0
Equisetum sylvaticum	Wood horsetail	3	0.82	H	0
Maianthemum canadense	Canada mayflower	5	0.00	H	0

WSI: 0.666 WFV: 0.333 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.03 BUSHY: 0.13 COMPACT: 0.03
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.35 NARROW: 0.01 FLOATING: 0.00
 SUBTYPES:CPUVW

WATERSHED: Hampton Falls River TYPE: Wooded Swamp

RESULTS OF MODEL COMPUTATIONS

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	30.2	:** :	6 WQual	49.0	:***** :
2 Hydro	56.5	:*****:	7 Econ	73.9	:*****:*** :
3 GrWat	33.9	:*** :	8 Recr	32.8	:***** :
4 Flood	62.7	:*****:*	9 Aest	30.4	:** :
5 ShoLi	0.00	:** :	10 Educ	33.3	:*** :

AVERAGE DECILE OF TEN MODELS: 3.80

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: HA032 PLACE: (Photo 4-6) S of Crank Rd, HF

FL DATE	: 04/24/86	GS&ABUN 20:	MITREP 2	Veg DENsity (HML) :	M
GS&ABUN 1	: ACERUB30	GS&ABUN 21:	SPHAGN35	wetl JUXtapos(HML):	H
GS&ABUN 2	: ULMAME12	GS&ABUN 22:	MAICAN20	w. level FLUCtu (Hi	
GS&ABUN 3	: BETLUT 5	GS&ABUN 23:	ONOSSEN15	Lo Vernal pool):	L
GS&ABUN 4	: PINSTR 4	GS&ABUN 24:	TYPLAT10	Veg.Spec. Richness:	M
GS&ABUN 5	: QUERUB 1	GS&ABUN 25:	CARSTR 8		
GS&ABUN 6	: TSUCAN 1	GS&ABUN 26:	OSMCIN 8	ECOLOGICAL COMPUTATIONS:	
GS&ABUN 7	: BETLEN 1	GS&ABUN 27:	SYMFOE 5	WSI:	0.720
GS&ABUN 8	: BETPOP 1	GS&ABUN 28:	TRILLI 1	WFV:	0.304
GS&ABUN 9	: RHURAD33	GS&ABUN 29:	EQUARV 1	Perc. Wild. Food:	M
GS&ABUN 10	: ALNRUG18	GS&ABUN 30:		NO. of species:	29
GS&ABUN 11	: VIBREC12	INVESTigator	:	Prime :	P
GS&ABUN 12	: SPILAT 5	Dom Wetl Class (0-11):	7	Aesthetic:	0.006
GS&ABUN 13	: pINSTR 6	SPec ELEM (ADEFHRSSW):		Tot ABUN:	250
GS&ABUN 14	: RIBES 5	CLaSs Richn (1-5)	:	Conifer? N	
GS&ABUN 15	: aCERUB 3	SubTYpe Richn (ABCDE):	B	Trees :	0.220
GS&ABUN 16	: LINBEN 3	VEGeta Intersp (HML):	M	Shrubs:	0.364
GS&ABUN 17	: tSUCAN 2	Surr. HABitat (123):	1	Herbs :	0.416
GS&ABUN 18	: ILEVER 2	Cover DISpers.(ABCDE):	D	Bog :	0.140
GS&ABUN 19	: VACCOR 1	Percent Open W (LMHV):	L	SBTY :	CMNPRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID	: HA032	OUTlet2 (APE)	:
2 letter TOWN codes*:HF		P% Bord OW (NLMH)	:
Topo Config (CSVH)	: S	FETch (LH or blank)	:
Wetl SIZE (LMH)	: M	DEPTH (SD or blank)	:
Dom SOil type (int)	: 197	HYdr CoN (None, Stream, River	
Other SOil	: 547	Lake or Combin.	:
Dom Surround Soil	: 47	ACCeSS (Rd Wat Iso)	:
Other Surr. Soi11	: 32	POP'n density (LMH)	:
Other Surr. Soi12	: 40	loc SCARCity (LMH)	:
wetl GRAdient (LH)	: H	CROP (N Hay Fam Com)	:
Surr. SLOpe (LH)	: H	LEGAL accs (puB priV	
TOpo. POSit. (LMH)	: H	or Restricted)	:
Dom Hydr Condit(1-6):5			
RIPArian conn (YN)	: Y		
INLet1 (Abs Perrenial or Ephemeral	: E	CALCULATED FROM OTHER DATA AND SOIL:	
INL2 (APE)	: E	SurGeol Under wl(ALOT):T	PERmeabil (LMH):M
INL3 (APE)	:	SurGeol Surround(ALOT):T	THICKness (LMH):M
INL4 (APE)	:	HPOSITION (Perch,W,A) :W	GW Relat (DRC) :C
INL5 (APE)	:	TRANsmissivity (LMH) :L	
OUTlet1 (APE)	: P		

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 4-6) S of Crank Rd, HF
HA032 Field Date: 04/24/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	30	0.50	T	3
Ulmus americana	American elm	12	0.82	T	1
Betula lutea	Yellow birch	5	0.50	T	2
Pinus strobus	White pine	4	0.18	T	3
Quercus rubra	Northern red oak	1	0.18	T	4
Tsuga canadensis	Hemlock	1	0.50	T	1
Betula lenta	Sweet birch	1	0.18	T	2
Betula populifolia	Grey birch	1	0.50	T	2
Rhus radicans	Poison ivy	33	0.82	S	2
Alnus rugosa	Speckled alder	18	1.00	S	1
Viburnum recognitum	Northern arrowwood	12	0.82	S	1
Spiraea latifolia	Meadowsweet	5	0.50	S	0
Pinus strobus	White pine	6	0.18	S	3
Ribes sp.	Gooseberry	5		S	1
Acer rubrum	Red maple	3	0.50	S	3
Lindera benzoin	Spicebush	3	0.82	S	1
Tsuga canadensis	Hemlock	2	0.50	S	1
Ilex verticillata	Winterberry	2	1.00	S	1
Vaccinium corymbosum	Highbush blueberry	1	0.82	S	2
Mitchella repens	Partridge-berry	2	0.00	B	0
Sphagnum sp.	Sphagnum moss	35	1.00	H	0
Maianthemum canadense	Canada mayflower	20	0.00	H	0
Onoclea sensibilis	Sensitive fern	15	1.00	H	0
Typha latifolia	Cattail	10	1.00	H	1
Carex stricta	Tussock sedge	8	1.00	H	3
Osmunda cinnamomea	Cinnamon fern	8	0.82	H	0
Symplocarpus foetidus	Skunk cabbage	5	1.00	H	0
Trillium sp.	Trillium	1		H	0
Equisetum arvense	Common horsetail	1	0.50	H	0

WSI: 0.720 WFW: 0.304 BOG: 0.140 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.04 BUSHY: 0.14 COMPACT: 0.04

MARSH SBCL: ROBUST: 0.04 BROADL: 0.11 NARROW: 0.03 FLOATING: 0.00

SUBTYPES: CMNPRUVW

WATERSHED: Hampton Falls River TYPE: Wooded Swamp

RESULTS OF MODEL COMPUTATIONS

Benefit Score 1-R-A-N-K-10

1 Biol 65.1 :*****:***** :

2 Hydro 68.4 :*****:***** :

3 GrWat 37.7 :****: : :

4 Flood 62.7 :*****:*: :

5 ShoLi 31.0 :*****:***** :

Benefit Score 1-R-A-N-K-10

6 WQual 52.9 :*****: : :

7 Econ 73.9 :*****: ** :

8 Recr 41.0 :*****: ** :

9 Aest 43.4 :*****: ** :

10 Educ 63.4 :*****:***** :

AVERAGE DECILE OF TEN MODELS: 7.20

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: HA034 PLACE: (Photo 4-6) N of Lamprey Rd, W of Great Hill, HF

FL DATE	: 04/24/86	GS&ABUN 20:	TYPLAT 3	Veg DENSITY (HML)	:	M
GS&ABUN 1	: PINSTR10	GS&ABUN 21:	SYMFOE 4	wetl JUXtapos(HML)	:	H
GS&ABUN 2	: ACERUB50	GS&ABUN 22:	CARSTR 2	w. level FLUCTu (Hi		
GS&ABUN 3	: ULMAME15	GS&ABUN 23:	CAREX 2	Lo Vernal pool)	:	L
GS&ABUN 4	: BETLUT 4	GS&ABUN 24:	ONOSEN20	Veg.Spec. Richness	:	M
GS&ABUN 5	: BETLEN 1	GS&ABUN 25:	EQUSYL 1			
GS&ABUN 6	: QUERUB 1	GS&ABUN 26:	EQUARV 1	ECOLOGICAL COMPUTATIONS:		
GS&ABUN 7	: FAGGRA 1	GS&ABUN 27:	MAICAN 5	WSI:	0.694	
GS&ABUN 8	: TSUCAN 2	GS&ABUN 28:	IRIVER 1	WFV:	0.432	
GS&ABUN 9	: BETPOP 1	GS&ABUN 29:	VERVIR 1	Perc. Wild. Food:	H	
GS&ABUN 10:	BETPAP 1	GS&ABUN 30:	SPHAGN 5	NO. of species:	30	
GS&ABUN 11:	SPILAT 1	INVESTigator	:	Prime :		
GS&ABUN 12:	VACCOR 2	Dom Wetl Class (0-11)	:	7	Aesthetic:	0.016
GS&ABUN 13:	aCERUB 3	SPec ELem (ADEFHRSW)	:		Tot ABUN:	190
GS&ABUN 14:	ILEVER 4	CLaSS Richn (1-5)	:	4	Conifer?	N
GS&ABUN 15:	ALNRUG10	SubTYpe Richn (ABCDE)	:	C	Trees :	0.453
GS&ABUN 16:	VIBREC10	VEGeta Intersp (HML)	:	M	Shrubs:	0.311
GS&ABUN 17:	CORAMO 2	Surr. HABitat (123)	:	1	Herbs :	0.237
GS&ABUN 18:	RHURAD25	Cover DISpers.(ABCDE)	:	E	Bog :	0.026
GS&ABUN 19:	RIBES 2	Percent Open W (LMHV)	:	L	SBTY :	MNRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID	: HA034	OUTlet2 (APE)	:	
2 letter TOWN codes*	: HF	P% Bord OW (NLMH)	:	
Topo Config (CSVH)	: S	FETch (LH or blank)	:	
Wetl SIZE (LMH)	: M	DEPTH (SD or blank)	:	
Dom SOil type (int)	: 33	HYdr CoN (None, Stream, River		
Other SOil	: 547	Lake or Combin.	:	
Dom Surround Soil	: 47	ACCeSs (Rd Wat Iso)	:	
Other Surr. Soill	: 42	POP'n density (LMH)	:	
Other Surr. Soil2	:	loc SCARCity (LMH)	:	
wetl GRAdient (LH)	: H	CROP (N Hay Fam Com)	:	
Surr. SLOpe (LH)	: H	LEGAL accs (puB priV		
TOpo. P0sit. (LMH)	: M	or Restricted)	:	
Dom Hydr Condit(1-6)	: 5			
RIPArian conn (YN)	: Y			
INLet1 (Abs Perrenial or Ephemeral	: P	CALCULATED FROM OTHER DATA AND SOIL:		
INL2 (APE)	: E	SurGeol Under wl(ALOT)	:	L PERmeabil (LMH): L
INL3 (APE)	: E	SurGeol Surround(ALOT)	:	T THICKness (LMH): L
INL4 (APE)	: E	HPOSITION (Perch,W,A)	:	P GW Relat (DRC) : C
INL5 (APE)	:	TRANsmissivity (LMH)	:	L
OUTlet1 (APE)	: P			

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-6) N of Lamprey Rd, W of Great Hill, HF
 HA034 Field Date: 04/24/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
<i>Pinus strobus</i>	White pine	10	0.18	T	3
<i>Acer rubrum</i>	Red maple	50	0.50	T	3
<i>Ulmus americana</i>	American elm	15	0.82	T	1
<i>Betula lutea</i>	Yellow birch	4	0.50	T	2
<i>Betula lenta</i>	Sweet birch	1	0.18	T	2
<i>Quercus rubra</i>	Northern red oak	1	0.18	T	4
<i>Fagus grandifolia</i>	Beech	1	0.18	T	3
<i>Tsuga canadensis</i>	Hemlock	2	0.50	T	1
<i>Betula populifolia</i>	Grey birch	1	0.50	T	2
<i>Betula papyrifera</i>	Paper birch	1	0.18	T	2
<i>Spiraea latifolia</i>	Meadowsweet	1	0.50	S	0
<i>Vaccinium corymbosum</i>	Highbush blueberry	2	0.82	S	2
<i>Acer rubrum</i>	Red maple	3	0.50	S	3
<i>Ilex verticillata</i>	Winterberry	4	1.00	S	1
<i>Alnus rugosa</i>	Speckled alder	10	1.00	S	1
<i>Viburnum recognitum</i>	Northern arrowwood	10	0.82	S	1
<i>Cornus amomum</i>	Silky dogwood	2	0.82	S	3
<i>Rhus radicans</i>	Poison ivy	25	0.82	S	2
<i>Ribes sp.</i>	Gooseberry	2		S	1
<i>Typha latifolia</i>	Cattail	3	1.00	H	1
<i>Symplocarpus foetidus</i>	Skunk cabbage	4	1.00	H	0
<i>Carex stricta</i>	Tussock sedge	2	1.00	H	3
<i>Carex sp.</i>	Sedge	2	1.00	H	3
<i>Onoclea sensibilis</i>	Sensitive fern	20	1.00	H	0
<i>Equisetum sylvaticum</i>	Wood horsetail	1	0.82	H	0
<i>Equisetum arvense</i>	Common horsetail	1	0.50	H	0
<i>Maianthemum canadense</i>	Canada mayflower	5	0.00	H	0
<i>Iris versicolor</i>	Blue flag	1	1.00	H	0
<i>Veratrum viride</i>	White hellebore	1	0.82	H	0
<i>Sphagnum sp.</i>	Sphagnum moss	5	1.00	H	0

WSI: 0.693 WFV: 0.431 BOG: 0.026 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.01 BUSHY: 0.14 COMPACT: 0.01

MARSH SBCL: ROBUST: 0.02 BROADL: 0.12 NARROW: 0.03 FLOATING: 0.00

SUBTYPES:MNRUVW

WATERSHED: Hampton Falls River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

Benefit Score 1-R-A-N-K-10

 1 Biol 47.2 :*****;*: :
 2 Hydro 61.8 :*****;*** :
 3 GrWat 41.5 :*****; :
 4 Flood 63.7 :*****;*** :
 5 ShoLi 0.00 :** : :

 6 WQual 58.8 :*****;*** :
 7 Econ 73.9 :*****;** :
 8 Recr 36.9 :*****;*: :
 9 Aest 39.1 :*****; :
 10 Educ 46.0 :*****;*: :

AVERAGE DECILE OF TEN MODELS: 5.90

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA002 PLACE: (Photo 3-6) S of Depot Ave, HF

FL DATE : 04/14/86	GS&ABUN 20: ILEVER 3	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB25	GS&ABUN 21: RHURAD 5	wetl JUXtapos(HML): M
GS&ABUN 2 : BETPOP 1	GS&ABUN 22: MYRPEN 1	w. level FLUCtu (Hi
GS&ABUN 3 : PINSTR 4	GS&ABUN 23: sALIX 5	Lo Vernal pool): L
GS&ABUN 4 : PRUSER 1	GS&ABUN 24: vIBLEN 1	Veg.Spec. Richness: M
GS&ABUN 5 : CAROVA 1	GS&ABUN 25: ALNRUG20	
GS&ABUN 6 : ULMAME 1	GS&ABUN 26: SOLIDA 2	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : POPTR 2	GS&ABUN 27: LYTSAL 2	WSI: 0.615
GS&ABUN 8 : QUEBIC 1	GS&ABUN 28: ONOSEN 3	WFV: 0.369
GS&ABUN 9 : RHUTYP 2	GS&ABUN 29: ASTER 2	Perc. Wild. Food: M
GS&ABUN 10: pINSTR 1	GS&ABUN 30: POa 5	NO. of species: 30
GS&ABUN 11: aCERUB 5	INVESTigator : TLP	Prime :
GS&ABUN 12: SPILAT25	Dom Wetl Class (0-11): 7	Aesthetic: 0.022
GS&ABUN 13: VITIS 5	SPec ELEM (ADEFHRSW) :	Tot ABUN: 137
GS&ABUN 14: VIBREC 6	CLaSS Richn (1-5) : 2	Conifer? N
GS&ABUN 15: CORAMO 1	SubTYpe Richn (ABCDE): D	Trees : 0.277
GS&ABUN 16: pOPTRE 1	VEGeta Intersp (HML) : L	Shrubs: 0.620
GS&ABUN 17: ROSMUL 3	Surr. HABitat (123) : 2	Herbs : 0.102
GS&ABUN 18: uLMAME 2	Cover DISpers.(ABCDE): E	Bog : 0.000
GS&ABUN 19: RHAFRA 1	Percent Open W (LMHV): L	SBTY : CNPUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID :TA002	OUTlet2 (APE) :
2 letter TOWN codes*:HF	% Bord OW (NLMH) :N
Topo Config (CSVH) :S	FETch (LH or blank) :
Wetl SIZE (LMH) :M	DEPTH (SD or blank) :
Dom SOil type (int) : 538	HYdr CoN (None, Stream, River
Other Soil :	Lake or Combin. :R
Dom Surround Soil : 26	ACCeSS (Rd Wat Iso) :R
Other Surr. Soill1 : 397	POP'n density (LMH) :L
Other Surr. Soill2 : 510	loc SCARCity (LMH) :L
wetl GRAdient (LH) :H	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :H	LEGAL accs (puB priV
TOpo. P0sit. (LMH) :H	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIPArarian conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :A	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):O THICKness (LMH):L
INL4 (APE) :	HPOSITION (Perch,W,A) :P GW Relat (DRC) :C
INL5 (APE) :	TRANsmissivity (LMH) :L
OUTLet1 (APE) :E	

* NC New Castle RY Rye HA Hampton
 NH North Hampton HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 3-6) S of Depot Ave, HF
TA002 Field Date: 04/14/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	25	0.50	T	3
Betula populifolia	Grey birch	1	0.50	T	2
Pinus strobus	White pine	4	0.18	T	3
Prunus serotina	Black cherry	1	0.18	T	3
Carya ovata	Shagbark hickory	1	0.18	T	2
Ulmus americana	American elm	1	0.82	T	1
Populus tremuloides	Quaking aspen	2	0.00	T	2
Quercus bicolor	Swamp white oak	1	1.00	T	4
Rhus typhina	Staghorn sumac	2	0.00	T	2
Pinus strobus	White pine	1	0.18	S	3
Acer rubrum	Red maple	5	0.50	S	3
Spiraea latifolia	Meadowsweet	25	0.50	S	0
Vitis sp.	Grapevine	5		S	3
Viburnum recognitum	Northern arrowwood	6	0.82	S	1
Cornus amomum	Silky dogwood	1	0.82	S	3
Populus tremuloides	Quaking aspen	1	0.00	S	2
Rosa multiflora	Multiflora rose	3	0.00	S	1
Ulmus americana	American elm	2	0.82	S	1
Rhamnus frangula	Europ. buckthorn	1	0.50	S	0
Ilex verticillata	Winterberry	3	1.00	S	1
Rhus radicans	Poison ivy	5	0.82	S	2
Myrica pensylvanica	Bayberry	1	0.50	S	2
Salix sp.	Willow	5	0.82	S	1
Viburnum lentago	Nannyberry	1	0.00	S	1
Alnus rugosa	Speckled alder	20	1.00	S	1
Solidago sp.	Goldenrod	2		H	0
Lythrum salicaria	Purple loosestrife	2	1.00	H	0
Onoclea sensibilis	Sensitive fern	3	1.00	H	0
Aster sp.	Asters	2		H	0
Poaceae	Grasses	5		H	1

WSI: 0.615 WFW: 0.368 BOG: 0.000 SALT: 0.000 DUNE: 0.007

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.10 BUSHY: 0.22 COMPACT: 0.18

MARSH SBCL: ROBUST: 0.01 BROADL: 0.02 NARROW: 0.03 FLOATING: 0.00

SUBTYPES: CNPUUV

WATERSHED: Taylor River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

Benefit Score 1-R-A-N-K-10

1 Biol	31.0	:**:	:	:
2 Hydro	50.0	:****:	:	:
3 GrWat	28.3	:*:	:	:
4 Flood	56.8	:**:	:	:
5 ShoLi	0.00	:**:	:	:

6 WQual	44.1	:**:	:	:
7 Econ	73.9	:*****:	**	:
8 Recr	41.0	:*****:	**	:
9 Aest	34.7	:***:	:	:
10 Educ	33.3	:***:	:	:

AVERAGE DECILE OF TEN MODELS: 3.20

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA004 PLACE: (Photo 3-8) N of Old Coach Lane, E of Rt1, HF

FL DATE	: 04/15/86	GS&ABUN 20:	RHURAD 3	Veg DENsity (HML)	: M
GS&ABUN 1	: PINSTR20	GS&ABUN 21:	LYCOBS 1	wetl JUXtapos(HML)	: M
GS&ABUN 2	: ACERUB35	GS&ABUN 22:	OSMCIN45	w. level FLUCtu (Hi	
GS&ABUN 3	: BETLUT 1	GS&ABUN 23:	JUNEFF 1	Lo Vernal pool)	: L
GS&ABUN 4	: QUEALB 1	GS&ABUN 24:	PHRCOM 1	Veg.Spec. Richness	: M
GS&ABUN 5	: ULMAME 1	GS&ABUN 25:	DRYSPI 1		
GS&ABUN 6	: JUNVIR 1	GS&ABUN 26:	TYPLAT 1	ECOLOGICAL COMPUTATIONS:	
GS&ABUN 7	: NYSSYL 1	GS&ABUN 27:	POa 2	WSI:	0.647
GS&ABUN 8	: VIBREC 5	GS&ABUN 28:	COPGRO 8	WFV:	0.341
GS&ABUN 9	: CLEALN 6	GS&ABUN 29:	ONOSEN 3	Perc. Wild. Food:	M
GS&ABUN 10:	ILEVER 7	GS&ABUN 30:	SYMFOE 2	NO. of species:	30
GS&ABUN 11:	aCERUB 4	INVESTigator	:	Prime :	
GS&ABUN 12:	LINBEN 3	Dom Wetl Class (0-11):	7	Aesthetic:	0.027
GS&ABUN 13:	HAMVIR 2	SPec ELem (ADEFHRSW):		Tot ABUN:	167
GS&ABUN 14:	vIBLEN 2	CLaSs Richn (1-5)	:	Conifer?	N
GS&ABUN 15:	pINSTR 1	SubTYpe Richn (ABCDE):	B	Trees :	0.359
GS&ABUN 16:	SPILAT 1	VEGeta Intersp (HML)	: M	Shrubs:	0.252
GS&ABUN 17:	VACCOR 6	Surr. HABitat (123)	: 2	Herbs :	0.389
GS&ABUN 18:	LYOLIG 1	Cover DISpers.(ABCDE):	C	Bog :	0.000
GS&ABUN 19:	ROSPAL 1	Percent Open W (LMHV):	L	SBTY :	MPUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID	:TA004	OUTlet2 (APE)	:	E
2 letter TOWN codes*:HF		P% Bord OW (NLMH)	:	L
Topo Config (CSVH)	:S	FETch (LH or blank)	:	
Wetl SIZE (LMH)	:M	DEPTH (SD or blank)	:	
Dom SOil type (int)	: 214	HYdr CoN (None, Stream, River		
Other Soil	:	Lake or Combin.	:	R
Dom Surround Soil	: 497	ACCeSS (Rd Wat Iso)	:	R
Other Surr. Soill1	: 313	POP'n density (LMH)	:	M
Other Surr. Soill2	: 40	loc SCARCity (LMH)	:	L
wetl GRAdient (LH)	:H	CROP (N Hay Fam Com)	:	N
Surr. SLOpe (LH)	:H	LEGAL accs (puB priV		
TOpo. POSit. (LMH)	:L	or Restricted)	:	V
Dom Hydr Condit(1-6):5				
RIPArian conn (YN)	:Y			
INLet1 (Abs Perrenial or Ephemeral	:P	CALCULATED FROM OTHER DATA AND SOIL:		
INL2 (APE)	:E	SurGeol Under wl(ALOT):O	PERmeabil	(LMH):H
INL3 (APE)	:	SurGeol Surround(ALOT):L	THICKness	(LMH):L
INL4 (APE)	:	HPOSITION (Perch,W,A)	:W	GW Relat (DRC) :C
INL5 (APE)	:	TRANsmissivity (LMH)	:	L
OUTlet1 (APE)	:P			

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 3-8) N of Old Coach Lane, E of Rt1, HF
 TA004 Field Date: 04/15/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
<i>Pinus strobus</i>	White pine	20	0.18	T	3
<i>Acer rubrum</i>	Red maple	35	0.50	T	3
<i>Betula lutea</i>	Yellow birch	1	0.50	T	2
<i>Quercus alba</i>	White oak	1	0.18	T	4
<i>Ulmus americana</i>	American elm	1	0.82	T	1
<i>Juniperus virginiana</i>	Red cedar	1	0.18	T	1
<i>Nyssa sylvatica</i>	Black gum, tupelo	1	0.82	T	1
<i>Viburnum recognitum</i>	Northern arrowwood	5	0.82	S	1
<i>Clethra alnifolia</i>	Sweet pepperbush	6	0.82	S	0
<i>Ilex verticillata</i>	Winterberry	7	1.00	S	1
<i>Acer rubrum</i>	Red maple	4	0.50	S	3
<i>Lindera benzoin</i>	Spicebush	3	0.82	S	1
<i>Hamamelis virginiana</i>	Witchhazel	2	0.18	S	0
<i>Viburnum lentago</i>	Nannyberry	2	0.00	S	1
<i>Pinus strobus</i>	White pine	1	0.18	S	3
<i>Spiraea latifolia</i>	Meadowsweet	1	0.50	S	0
<i>Vaccinium corymbosum</i>	Highbush blueberry	6	0.82	S	2
<i>Lyonia ligustrina</i>	Maleberry	1	1.00	S	0
<i>Rosa palustris</i>	Marsh rose	1	1.00	S	1
<i>Rhus radicans</i>	Poison ivy	3	0.82	S	2
<i>Lycopodium obscurum</i>	Ground pine	1	0.18	H	0
<i>Osmunda cinnamomea</i>	Cinnamon fern	45	0.82	H	0
<i>Juncus effusus</i>	Soft rush	1	1.00	H	0
<i>Phragmites communis</i>	Reed	1	0.82	H	0
<i>Dryopteris spinulosa</i>	Spinulose shieldfern	1	0.82	H	0
<i>Typha latifolia</i>	Cattail	1	1.00	H	1
<i>Poaceae</i>	Grasses	2		H	1
<i>Coptis groenlandica</i>	Goldthread	8	0.82	H	0
<i>Onoclea sensibilis</i>	Sensitive fern	3	1.00	H	0
<i>Symplocarpus foetidus</i>	Skunk cabbage	2	1.00	H	0

WSI: 0.647 WFV: 0.341 BOG: 0.000 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.05 BUSHY: 0.17 COMPACT: 0.00

MARSH SBCL: ROBUST: 0.01 BROADL: 0.35 NARROW: 0.01 FLOATING: 0.00

SUBTYPES:MPUW

WATERSHED: Taylor River

TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

Benefit Score 1-R-A-N-K-10

1 Biol	61.2	:*****:**** :
2 Hydro	69.7	:*****:**** :
3 GrWat	60.3	:*****:**** :
4 Flood	64.7	:*****:** :
5 ShoLi	14.4	:*****:** :

6 WQual	60.7	:*****:*** :
7 Econ	73.9	:*****:*** :
8 Recr	49.3	:*****:**** :
9 Aest	43.4	:*****:** :
10 Educ	58.7	:*****:*** :

AVERAGE DECILE OF TEN MODELS: 7.90

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA007 PLACE: (Photo 4-6) Rt88, between Cock Hill Rd & I95, HF

FL DATE : 03/27/86	GS&ABUN 20:	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB15	GS&ABUN 21:	wetl JUXTapos(HML): L
GS&ABUN 2 : PINSTR 2	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : aCERUB 5	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : VIBREC60	GS&ABUN 24:	Veg.Spec. Richness: L
GS&ABUN 5 : ALNRUG15	GS&ABUN 25:	
GS&ABUN 6 : SPILAT 5	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : pINSTR 1	GS&ABUN 27:	WSI: 0.799
GS&ABUN 8 : ONOSEN25	GS&ABUN 28:	WFV: 0.281
GS&ABUN 9 :	GS&ABUN 29:	Perc. Wild. Food: M
GS&ABUN 10:	GS&ABUN 30:	NO. of species: 8
GS&ABUN 11:	INVESTigator : ASG	Prime :
GS&ABUN 12:	Dom Wetl Class (0-11): 6	Aesthetic: 0.000
GS&ABUN 13:	SPec ELEM (ADEFHRSW):	Tot ABUN: ~ 128
GS&ABUN 14:	CLaSS Richn (1-5) : 2	Conifer? N
GS&ABUN 15:	SubTYpe Richn (ABCDE): D	Trees : 0.133
GS&ABUN 16:	VEGeta Intersp (HML) : M	Shrubs: 0.672
GS&ABUN 17:	Surr. HABitat (123) : 2	Herbs : 0.195
GS&ABUN 18:	Cover DISpers.(ABCDE): D	Bog : 0.000
GS&ABUN 19:	Percent Open W (LMHV): L	SBTY : CPUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID :TA007	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :N
Topo CONfig (CSVH) :C	FETch (LH or blank) :
Wetl SIze (LMH) :L	DEPTH (SD or blank) :
Dom SOil type (int) : 68	HYdr CoN (None, Stream, River
Other SOil :	Lake or Combin. :N
Dom Surround Soil : 538	ACCeSs (Rd Wat Iso) :R
Other Surr. Soil1 : 510	POP'n density (LMH) :M
Other Surr. Soil2 :	loc SCARCity (LMH) :L
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :L	LEGAL accs (pub priv
TOpo. P0sit. (LMH) :H	or Restricted) :V
Dom Hydr Condit(1-6):6	
RIPArian conn (YN) :N	
INLet1 (Abs Perrenial or Ephemeral :E	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :	SurGeol Under w1(ALOT):T PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):L THICKness (LMH):L
INL4 (APE) :	HPOsition (Perch,W,A) :P GW Relat (DRC) :R
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTLet1 (APE) :A	

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-6) Rt88, between Cock Hill Rd & I95, HF
TA007 Field Date: 03/27/86 Report Date: 06/26/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	15	0.50	T	3
Pinus strobus	White pine	2	0.18	T	3
Acer rubrum	Red maple	5	0.50	S	3
Viburnum recognitum	Northern arrowwood	60	0.82	S	1
Alnus rugosa	Speckled alder	15	1.00	S	1
Spiraea latifolia	Meadowsweet	5	0.50	S	0
Pinus strobus	White pine	1	0.18	S	3
Onoclea sensibilis	Sensitive fern	25	1.00	H	0

WSI: 0.798 WFW: 0.281 BOG: 0.000 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.04 BUSHY: 0.58 COMPACT: 0.03

MARSH SBCL: ROBUST: 0.00 BROADL: 0.19 NARROW: 0.00 FLOATING: 0.00

SUBTYPES:CPUW

WATERSHED: Taylor River TYPE: Shrub Wetland

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10
1 Biol	32.5	:*** : :
2 Hydro	3.94	:* : :
3 GrWat	20.7	:* : :
4 Flood	58.8	:**** : :
5 ShoLi	0.00	:** : :

Benefit	Score	1-R-A-N-K-10
6 WQual	51.9	:***** : :
7 Econ	39.1	:** : :
8 Recr	12.3	:* : :
9 Aest	27.5	:* : :
10 Educ	25.3	:* : :

AVERAGE DECILE OF TEN MODELS: 1.90

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
WID: TA008 PLACE: (Photo 3-8) Kenney Brook, N of Rt88, HF

FL DATE : 03/28/86	GS&ABUN 20: SOLIDA 1	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB25	GS&ABUN 21: SPHAGN 4	wetl JUXtapos(HML): M
GS&ABUN 2 : QUERUB 3	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : BETLUT 4	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : QUEALB 1	GS&ABUN 24:	Veg.Spec. Richness: M
GS&ABUN 5 : CORAMO 1	GS&ABUN 25:	
GS&ABUN 6 : VIBCAS 1	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : tSUCAN 1	GS&ABUN 27:	WSI: 0.663
GS&ABUN 8 : KALANG 2	GS&ABUN 28:	WFV: 0.411
GS&ABUN 9 : ILEVER 2	GS&ABUN 29:	Perc. Wild. Food: H
GS&ABUN 10: VACCOR 2	GS&ABUN 30:	NO. of species: 21
GS&ABUN 11: ALNRUG 5	INVESTigator : ASG	Prime :
GS&ABUN 12: CLEALN 2	Dom Wetl Class (0-11): 7	Aesthetic: 0.014
GS&ABUN 13: SAMCAN 1	SPec ELEM (ADEFHRSW):	Tot ABUN: 73
GS&ABUN 14: VIBREC 3	CLaSS Richn (1-5) : 3	Conifer? N
GS&ABUN 15: sALIX 1	SubTYpe Richn (ABCDE): D	Trees : 0.452
GS&ABUN 16: HAMVIR 1	VEGeTA Intersp (HML) : L	Shrubs: 0.301
GS&ABUN 17: ONOSEN 6	Surr. HABitat (123) : 2	Herbs : 0.247
GS&ABUN 18: COPGRO 5	Cover DISpers. (ABCDE): E	Bog : 0.055
GS&ABUN 19: ASTER 2	Percent Open W (LMHV): L	SBTY : CMPUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA008	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :N
Topo CONfig (CSVH) :S	FETch (LH or blank) :
Wetl SIZE (LMH) :L	DEPTH (SD or blank) :
Dom SOil type (int) : 538	HYdr CoN (None, Stream, River Lake or Combin. :S
Other SOil :	ACCeSS (Rd Wat Iso) :R
Dom Surround Soil : 38	POP'n density (LMH) :L
Other Surr. Soil1 : 313	loc SCARCity (LMH) :L
Other Surr. Soil2 :	CROP (N Hay Fam Com):N
wetl GRAdient (LH) :L	LEGAL accs (puB priV or Restricted) :V
Surr. SLOpe (LH) :H	
TOpo. P0sit. (LMH) :L	
Dom Hydr Condit(1-6):4	
RIParian conn (YN) :Y	
INLET1 (Abs Perrenial or Ephemeral :P	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):L THICKness (LMH):L
INL4 (APE) :	HPOsition (Perch,W,A) :P GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTLET1 (APE) :P	

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA015 PLACE: (Photo 5-10) Taylor River, between Mill Rd & Towle Rd, HA HF
 FL DATE : 06/25/86 GS&ABUN 20: IMPCAP10 Veg DENsity (HML) : L
 GS&ABUN 1 : ACERUB 2 GS&ABUN 21: POa 1 wetl JUXtapos(HML): H
 GS&ABUN 2 : QUERUB 1 GS&ABUN 22: TYPLAT 8 w. level FLUCtu (Hi
 GS&ABUN 3 : TILAME 1 GS&ABUN 23: CAREX 3 Lo Vernal pool): H
 GS&ABUN 4 : TSUCAN 1 GS&ABUN 24: ONOSEN 1 Veg.Spec. Richness: M
 GS&ABUN 5 : CAROVA 1 GS&ABUN 25: POTEMO10
 GS&ABUN 6 : PINSTR 1 GS&ABUN 26: PONCOR 2 ECOLOGICAL COMPUTATIONS:
 GS&ABUN 7 : VIBREC 2 GS&ABUN 27: CARCRI 1 WSI: 0.881
 GS&ABUN 8 : RHURAD 1 GS&ABUN 28: JUNEFF 1 WFV: 0.231
 GS&ABUN 9 : cARCAR 1 GS&ABUN 29: CERDEM 4 Perc. Wild. Food: M
 GS&ABUN 10: uLMAME 1 GS&ABUN 30: NO. of species: 29
 GS&ABUN 11: SAMCAN 1 INVESTigator : GS Prime : P
 GS&ABUN 12: ALNRUG 3 Dom Wetl Class (0-11): 1 Aesthetic: 0.114
 GS&ABUN 13: ROSPAL 1 SPec ELEM (ADEFHRSW): Tot ABUN: 79
 GS&ABUN 14: SPILAT 1 CLaSS Richn (1-5) : 5 Conifer? N
 GS&ABUN 15: DRYTHE 1 SubTYpe Richn (ABCDE): C Trees : 0.089
 GS&ABUN 16: SAGLAT 3 VEGeta Intersp (HML) : L Shrubs: 0.139
 GS&ABUN 17: SPARGA 5 Surr. HABitat (123) : 1 Herbs : 0.772
 GS&ABUN 18: EQUIPRA 1 Cover DISpers.(ABCDE): A Bog : 0.000
 GS&ABUN 19: LEMMIN10 Percent Open W (LMHV): H SBTY : FNPRUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA
 Wet ID :TA015 OUTlet2 (APE) :
 2 letter TOWN codes*:HA HF % Bord OW (NLMH) :H
 Topo CONfig (CSVH) :S FETch (LH or blank) :H
 Wetl SIze (LMH) :M DEPTH (SD or blank) :D
 Dom SOil type (int) : 6 HYdr CoN (None, Stream, River
 Other SOil : Lake or Combin. :R
 Dom Surround Soil : 38 ACCeSS (Rd Wat Iso) :R
 Other Surr. Soill : 510 POP'n density (LMH) :L
 Other Surr. Soil2 : 40 loc SCARCity (LMH) :H
 wetl GRAdient (LH) :L CROP (N Hay Fam Com):N
 Surr. SLOpe (LH) :H LEGAL accs (puB priV
 TOpo. POsit. (LMH) :M or Restricted) :V
 Dom Hydr Condit(1-6):5
 RIParian conn (YN) :Y
 INLet1 (Abs Perrenial
 or Ephemeral :P CALCULATED FROM OTHER DATA AND SOIL:
 INL2 (APE) :E SurGeol Under wl(ALOT):L PERmeabil (LMH):M
 INL3 (APE) : SurGeol Surround(ALOT):L THICKness (LMH):M
 INL4 (APE) : HPOsition (Perch,W,A) :W GW Relat (DRC) :C
 INL5 (APE) : TRANsmissivity (LMH) :L
 OUTLet1 (APE) :P

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA017 PLACE: (Photo 4-8) Brown Rd, W of I95, HF

FL DATE : 04/04/86	GS&ABUN 20: SOLIDA 1	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB 1	GS&ABUN 21: LYTSAL 1	wetl JUXtapos(HML): M
GS&ABUN 2 : VIBLEN 1	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : JUNVIR 1	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : BERVUL 1	GS&ABUN 24:	Veg.Spec. Richness: L
GS&ABUN 5 : ALNRUG 7	GS&ABUN 25:	
GS&ABUN 6 : aCERUB 1	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : VIBREC 2	GS&ABUN 27:	WSI: 0.923
GS&ABUN 8 : ROSPAL 1	GS&ABUN 28:	WFV: 0.266
GS&ABUN 9 : SPILAT 2	GS&ABUN 29:	Perc. Wild. Food: M
GS&ABUN 10: ILEVER 1	GS&ABUN 30:	NO. of species: 21
GS&ABUN 11: LONICE 1	INVESTigator : TLP	Prime : P
GS&ABUN 12: ONOSEN 2	Dom Wetl Class (0-11): 3	Aesthetic: 0.016
GS&ABUN 13: SCICYP 1	SPec ELEM (ADEFHRSW):	Tot ABUN: 92
GS&ABUN 14: POa 10	CLaSs Richn (1-5) : 4	Conifer? N
GS&ABUN 15: CAREX 12	SubTYpe Richn (ABCDE): C	Trees : 0.033
GS&ABUN 16: JUNEFF10	VEGeta Intersp (HML) : M	Shrubs : 0.174
GS&ABUN 17: TYPLAT30	Surr. HABitat (123) : 1	Herbs : 0.793
GS&ABUN 18: PHRCOM 5	Cover DISpers.(ABCDE): C	Bog : 0.000
GS&ABUN 19: ASTER 1	Percent Open W (LMHV): L	SBTY : CNRUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA017	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :L
Topo CONfig (CSVH) :S	FETch (LH or blank) :
Wetl SIZE (LMH) :L	DEPTH (SD or blank) :
Dom SOil type (int) : 33	HYdr CoN (None, Stream, River
Other SOil : 95	Lake or Combin. :R
Dom Surround Soil : 32	ACCeSS (Rd Wat Iso) :I
Other Surr. Soill : 313	POP'n density (LMH) :L
Other Surr. Soil2 :	loc SCARCity (LMH) :L
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :H	LEGAL accs (pub priv
TOpo. POSit. (LMH) :L	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIParian conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :P	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):L THICKness (LMH):L
INL4 (APE) :	HPOsition (Perch,W,A) :P GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTLet1 (APE) :P	

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-8) Brown Rd, W of I95, HF

TA017

Field Date: 04/04/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetland Freq	Type	Food Value
Acer rubrum	Red maple	1	0.50	T	3
Viburnum lentago	Nannyberry	1	0.00	T	1
Juniperus virginiana	Red cedar	1	0.18	T	1
Berberis vulgaris	Common barberry	1		S	0
Alnus rugosa	Speckled alder	7	1.00	S	1
Acer rubrum	Red maple	1	0.50	S	3
Viburnum recognitum	Northern arrowwood	2	0.82	S	1
Rosa palustris	Marsh rose	1	1.00	S	1
Spirea latifolia	Meadowsweet	2	0.50	S	0
Ilex verticillata	Winterberry	1	1.00	S	1
Lonicera sp.	Honeysuckle	1	0.00	S	0
Onoclea sensibilis	Sensitive fern	2	1.00	H	0
Scirpus cyperinus	Woolgrass	1	1.00	H	3
Poaceae	Grasses	10		H	1
Carex sp.	Sedge	12	1.00	H	3
Juncus effusus	Soft rush	10	1.00	H	0
Typha latifolia	Cattail	30	1.00	H	1
Phragmites communis	Reed	5	0.82	H	0
Aster sp.	Asters	1		H	0
Solidago sp.	Goldenrod	1		H	0
Lythrum salicaria	Purple loosestrife	1	1.00	H	0

WSI: 0.923 WVF: 0.266 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.01 BUSHY: 0.13 COMPACT: 0.02
 MARSH SBCL: ROBUST: 0.39 BROADL: 0.02 NARROW: 0.35 FLOATING: 0.00
 SUBTYPES: CNRUW

WATERSHED: Taylor River TYPE: Shallow Fresh Marsh

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

1 Biol	59.6	:*****:***:
2 Hydro	57.8	:*****:*
3 GrWat	30.1	:** :
4 Flood	51.9	:* :
5 ShoLi	11.3	:*****:

Benefit Score 1-R-A-N-K-10

6 WQual	58.8	:*****:***:
7 Econ	34.7	:* :
8 Recr	35.6	:*****:*
9 Aest	42.0	:*****:*
10 Educ	41.2	:**** :

AVERAGE DECILE OF TEN MODELS: 4.70

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA018 PLACE: (Photo 4-6,8) Brown Rd, W of I95, HF

FL DATE : 04/14/86	GS&ABUN 20:	Veg DENsity (HML) : H
GS&ABUN 1 : LONICE 1	GS&ABUN 21:	wetl JUXtapos(HML): M
GS&ABUN 2 : JUNVIR 1	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : ALNRUG12	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : ROSPAL 1	GS&ABUN 24:	Veg.Spec. Richness: M
GS&ABUN 5 : CARSTR 1	GS&ABUN 25:	
GS&ABUN 6 : IRIVER 2	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : MYOSOT 4	GS&ABUN 27:	WSI: 0.869
GS&ABUN 8 : JUNEFF15	GS&ABUN 28:	WFV: 0.273
GS&ABUN 9 : POa 65	GS&ABUN 29:	Perc. Wild. Food: M
GS&ABUN 10: SOLIDA 2	GS&ABUN 30:	NO. of species: 18
GS&ABUN 11: ASTER 2	INVESTigator : GS	Prime : P
GS&ABUN 12: DAUCAR 1	Dom Wetl Class (0-11): 3	Aesthetic: 0.045
GS&ABUN 13: CAREX 20	SPec ELEM (ADEFHRSW):	Tot ABUN: 143
GS&ABUN 14: POA 10	CLaSS Richn (1-5) : 3	Conifer? N
GS&ABUN 15: PLAMAJ 1	SubTYpe Richn (ABCDE): C	Trees : 0.000
GS&ABUN 16: TYPLAT 2	VEGeta Intersp (HML) : M	Shrubs: 0.105
GS&ABUN 17: EPILEP 1	Surr. HABitat (123) : 2	Herbs : 0.895
GS&ABUN 18: RANUNC 2	Cover DISpers. (ABCDE): D	Bog : 0.000
GS&ABUN 19:	Percent Open W (LMHV): L	SBTY : NRU

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA018	OUTlet2 (APE) :	
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :L	
Topo Config (CSVH) :S	FETch (LH or blank) :	
Wetl SIZE (LMH) :L	DEPTH (SD or blank) :	
Dom SOil type (int) : 33	HYdr CoN (None, Stream, River	
Other SOil : 95	Lake or Combin. :S	
Dom Surround Soil : 313	ACCeSS (Rd Wat Iso) :R	
Other Surr. Soi11 : 32	POP'n density (LMH) :L	
Other Surr. Soi12 :	loc SCARCity (LMH) :M	
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N	
Surr. SLOpe (LH) :H	LEGAL accs (puB priv	
TOpo. POSit. (LMH) :H	or Restricted) :V	
Dom Hydr Condit(1-6):4		
RIPArian conn (YN) :Y		
INLet1 (Abs Perrenial or Ephemeral :E	CALCULATED FROM OTHER DATA AND SOIL:	
INL2 (APE) :E	SurGeol Under wl(ALOT):L PERmeabil (LMH):L	
INL3 (APE) :E	SurGeol Surround(ALOT):O THICKness (LMH):L	
INL4 (APE) :	HPOSITION (Perch,W,A) :P GW Relat (DRC) :C	
INL5 (APE) :	TRAnsmissivity (LMH) :L	
OUTLet1 (APE) :E		

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 4-6,8) Brown Rd, W of I95, HF

TA018

Field Date: 04/14/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Lonicera sp.	Honeysuckle	1	0.00	S	0
Juniperus virginiana	Red cedar	1	0.18	S	1
Alnus rugosa	Speckled alder	12	1.00	S	1
Rosa palustris	Marsh rose	1	1.00	S	1
Carex stricta	Tussock sedge	1	1.00	H	3
Iris versicolor	Blue flag	2	1.00	H	0
Myosotis sp.	Forget-me-not	4	0.00	H	0
Juncus effusus	Soft rush	15	1.00	H	0
Poaceae	Grasses	65		H	1
Solidago sp.	Goldenrod	2		H	0
Aster sp.	Asters	2		H	0
Daucus carota	Queen anne's lace	1	0.00	H	0
Carex sp.	Sedge	20	1.00	H	3
Poa sp.	Grass	10		H	1
Plantago major	Common plantain	1	0.18	H	1
Typha latifolia	Cattail	2	1.00	H	1
Epilobium leptophyllum	Narrow-leaf willowweed	1	0.50	H	1
Ranunculus sp.	Buttercup	2		H	0

WSI: 0.868 WFV: 0.272 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.09 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.02 BROADL: 0.00 NARROW: 0.81 FLOATING: 0.00
 SUBTYPES:NRU

WATERSHED: Taylor River

TYPE: Shallow Fresh Marsh

RESULTS OF MODEL COMPUTATIONS

Benefit Score 1-R-A-N-K-10

1 Biol	53.4	:*****:**:	:
2 Hydro	47.3	:** :	:
3 GrWat	28.3	:* :	:
4 Flood	54.9	:** :	:
5 ShoLi	13.4	:*****:	:

AVERAGE DECILE OF TEN MODELS: 4.60

Benefit Score 1-R-A-N-K-10

6 WQual	52.9	:*****:	:
7 Econ	47.8	:** :	:
8 Recr	32.8	:*****:	:
9 Aest	55.0	:*****:****:	:
10 Educ	66.6	:*****:****:	:

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA019 PLACE: (Photo 4-6) W of North Rd, HF

FL DATE : 03/26/86	GS&ABUN 20: LONICE 1	Veg DENSity (HML) : M
GS&ABUN 1 : ACERUB30	GS&ABUN 21: VITIS 2	wetl JUXtapos(HML): M
GS&ABUN 2 : ULMAME40	GS&ABUN 22: ONOSEN30	w. level FLUCtu (Hi
GS&ABUN 3 : SALIX 2	GS&ABUN 23: ASTER 5	Lo Vernal pool): L
GS&ABUN 4 : CAROVA 1	GS&ABUN 24: CAREX 2	Veg.Spec. Richness: M
GS&ABUN 5 : BETPOP 2	GS&ABUN 25: SOLIDA 2	
GS&ABUN 6 : BETLEN 1	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : PINSTR 1	GS&ABUN 27:	WSI: 0.748
GS&ABUN 8 : QUERUB 1	GS&ABUN 28:	WFV: 0.348
GS&ABUN 9 : TSUCAN 2	GS&ABUN 29:	Perc. Wild. Food: M
GS&ABUN 10: POPTRE 2	GS&ABUN 30:	NO. of species: 25
GS&ABUN 11: FRAAME 2	INVESTigator : ASG	Prime :
GS&ABUN 12: JUNVIR 1	Dom Wetl Class (0-11): 7	Aesthetic: 0.015
GS&ABUN 13: aCERUB 8	SPec ELEM (ADEFHRSW):	Tot ABUN: 164
GS&ABUN 14: RHURAD 5	CLaSS Richn (1-5) : 3	Conifer? N
GS&ABUN 15: ILEVER 2	SubTYpe Richn (ABCDE): C	Trees : 0.518
GS&ABUN 16: ALNRUG15	VEGeta Intersp (HML) : L	Shrubs: 0.244
GS&ABUN 17: VIBREC 2	Surr. HABitat (123) : 2	Herbs : 0.238
GS&ABUN 18: VACCOR 2	Cover DISpers.(ABCDE): E	Bog : 0.000
GS&ABUN 19: ROSA 3	Percent Open W (LMHV): L	SBTY : PUUV

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA019	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :N
Topo CONfig (CSVH) :S	FETch (LH or blank) :
Wetl SIZE (LMH) :M	DEPTH (SD or blank) :
Dom SOil type (int) : 33	HYdr CoN (None, Stream, River
Other SOil :	Lake or Combin. :S
Dom Surround Soil : 40	ACCeSS (Rd Wat Iso) :R
Other Surr. Soill : 38	POP'n density (LMH) :L
Other Surr. Soil2 :	loc SCARCity (LMH) :L
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :L	LEGAL accs (puB priV
TOpo. POSit. (LMH) :H	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIPArarian conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :E	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :E	SurGeol Under w1(ALOT):L PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):T THICKness (LMH):L
INL4 (APE) :	HPOSITION (Perch,W,A) :P GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTLet1 (APE) :E	

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 4-6) W of North Rd, HF
TA019 Field Date: 03/26/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	30	0.50	T	3
Ulmus americana	American elm	40	0.82	T	1
Salix sp.	Willow	2	0.82	T	1
Carya ovata	Shagbark hickory	1	0.18	T	2
Betula populifolia	Grey birch	2	0.50	T	2
Betula lenta	Sweet birch	1	0.18	T	2
Pinus strobus	White pine	1	0.18	T	3
Quercus rubra	Northern red oak	1	0.18	T	4
Tsuga canadensis	Hemlock	2	0.50	T	1
Populus tremuloides	Quaking aspen	2	0.00	T	2
Fraxinus americana	White ash	2	0.50	T	1
Juniperus virginiana	Red cedar	1	0.18	T	1
Acer rubrum	Red maple	8	0.50	S	3
Rhus radicans	Poison ivy	5	0.82	S	2
Ilex verticillata	Winterberry	2	1.00	S	1
Alnus rugosa	Speckled alder	15	1.00	S	1
Viburnum recognitum	Northern arrowwood	2	0.82	S	1
Vaccinium corymbosum	Highbush blueberry	2	0.82	S	2
Rosa sp.	Rose	3		S	1
Lonicera sp.	Honeysuckle	1	0.00	S	0
Vitis sp.	Grapevine	2		S	3
Onoclea sensibilis	Sensitive fern	30	1.00	H	0
Aster sp.	Asters	5		H	0
Carex sp.	Sedge	2	1.00	H	3
Solidago sp.	Goldenrod	2		H	0

WSI: 0.748 WVF: 0.347 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.04 BUSHY: 0.13 COMPACT: 0.01
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.18 NARROW: 0.01 FLOATING: 0.00
 SUBTYPES:PUVW

WATERSHED: Taylor River TYPE: Wooded Swamp

RESULTS OF MODEL COMPUTATIONS

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	35.6	:**** :	6 WQual	48.0	:**** :
2 Hydro	52.6	:***** :	7 Econ	73.9	:*****;** :
3 GrWat	32.0	:** :	8 Recr	32.8	:***** :
4 Flood	64.7	:*****;** :	9 Aest	39.1	:*****; :
5 SholI	0.00	:** :	10 Educ	38.0	:***** :

AVERAGE DECILE OF TEN MODELS: 4.10

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA020 PLACE: (Photo 4-6) North Rd, near jct with Rt88, HF

FL DATE : 04/14/86	GS&ABUN 20: TYPLAT 3	Veg DENSity (HML) : M
GS&ABUN 1 : ACERUB35	GS&ABUN 21: POa 2	wetl JUXtapos(HML): M
GS&ABUN 2 : PRUSER 1	GS&ABUN 22: ONOSEN18	w. level FLUCtu (Hi
GS&ABUN 3 : ULMAME 1	GS&ABUN 23: SOLIDA 2	Lo Vernal pool): L
GS&ABUN 4 : VACCOR 1	GS&ABUN 24: ASTER 2	Veg.Spec. Richness: M
GS&ABUN 5 : PRUVIR 1	GS&ABUN 25: MYOSOT 2	
GS&ABUN 6 : ALNRUG25	GS&ABUN 26: RANUNC 2	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : SPILAT 2	GS&ABUN 27: EPICOL 1	WSI: 0.715
GS&ABUN 8 : uLMAME 1	GS&ABUN 28: IMPCAP 8	WFV: 0.326
GS&ABUN 9 : sALIX 1	GS&ABUN 29: MATSTR 1	Perc. Wild. Food: M
GS&ABUN 10: PARQUI 1	GS&ABUN 30: VIOLA 1	NO. of species: 30
GS&ABUN 11: ILEVER 1	INVESTigator : GS	Prime : P
GS&ABUN 12: SAMCAN 1	Dom Wetl Class (0-11): 7	Aesthetic: 0.060
GS&ABUN 13: VIBREC 1	SPec ELEM (ADEFHRSW):	Tot ABUN: 125
GS&ABUN 14: LONICE 4	CLaSS Richn (1-5) : 4	Conifer? N
GS&ABUN 15: RUBALL 1	SubTYpe Richn (ABCDE): C	Trees : 0.296
GS&ABUN 16: RUBHIS 2	VEGeta Intersp (HML) : M	Shrubs: 0.324
GS&ABUN 17: OSMREG 1	Surr. HABitat (123) : 2	Herbs : 0.380
GS&ABUN 18: OSMCIN 2	Cover DISpers.(ABCDE): D	Bog : 0.000
GS&ABUN 19: POLARI 1	Percent Open W (LMHV): L	SBTY : NRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID :TA020	OUTlet2 (APE) :
2 letter TOWN codes*:HF	% Bord OW (NLMH) :L
Topo CONfig (CSVH) :S	FETch (LH or blank) :
Wetl SIZe (LMH) :L	DEPTH (SD or blank) :
Dom SOil type (int) : 33	HYdr CoN (None, Stream, River
Other SOil : 95	Lake or Combin. :S
Dom Surround Soil : 40	ACCeSS (Rd Wat Iso) :R
Other Surr. Soi1 : 38	POP'n density (LMH) :L
Other Surr. Soi2 : 32	loc SCARCity (LMH) :L
wetl GRAdient (LH) :H	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :H	LEGAL accs (pub priV
TOpo. POSit. (LMH) :H	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIParian conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :E	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :E	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):T THICKness (LMH):L
INL4 (APE) :	HPOsition (Perch,W,A) :P GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTlet1 (APE) :E	

* NC New Castle RY Rye HA Hampton
 NH North Hampton HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-6) North Rd, near jct with Rt88, HF
 TA020 Field Date: 04/14/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	35	0.50	T	3
Prunus serotina	Black cherry	1	0.18	T	3
Ulmus americana	American elm	1	0.82	T	1
Vaccinium corymbosum	Highbush blueberry	1	0.82	S	2
Prunus virginiana	Choke cherry	1	0.00	S	3
Alnus rugosa	Speckled alder	25	1.00	S	1
Spiraea latifolia	Meadowsweet	2	0.50	S	0
Ulmus americana	American elm	1	0.82	S	1
Salix sp.	Willow	1	0.82	S	1
Parthenocissus quinquefolia	Virginia creeper	1	0.00	S	1
Ilex verticillata	Winterberry	1	1.00	S	1
Sambucus canadensis	Elderberry	1	0.18	S	1
Viburnum recognitum	Northern arrowwood	1	0.82	S	1
Lonicera sp.	Honeysuckle	4	0.00	S	0
Rubus allegheniensis	Blackberry	1	0.00	B	3
Rubus hispida	Trailing bramble	2	0.50	B	3
Osmunda regalis	Royal fern	1	1.00	H	0
Osmunda cinnamomea	Cinnamon fern	2	0.82	H	0
Polygonum arifolium	Halberd-leaf smartweed	1	1.00	H	3
Typha latifolia	Cattail	3	1.00	H	1
Poaceae	Grasses	2		H	1
Onoclea sensibilis	Sensitive fern	18	1.00	H	0
Solidago sp.	Goldenrod	2		H	0
Aster sp.	Asters	2		H	0
Myosotis sp.	Forget-me-not	2	0.00	H	0
Ranunculus sp.	Buttercup	2		H	0
Epilobium coloratum	Purple willowweed	1	1.00	H	1
Impatiens capensis	Jewelweed	8	0.82	H	0
Mattuccia struthiopteris	Ostrich fern	1	0.82	H	0
Viola sp.	Violet	1		H	0

WSI: 0.715 WVF: 0.326 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.01 BUSHY: 0.27 COMPACT: 0.01
 MARSH SBCL: ROBUST: 0.08 BROADL: 0.17 NARROW: 0.04 FLOATING: 0.00
 SUBTYPES:NRUVW

WATERSHED: Taylor River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	43.4	:*****:	6 WQual	44.1	:**:
2 Hydro	52.6	:*****:	7 Econ	56.5	:*****:
3 GrWat	26.4	:*:	8 Recr	26.0	:***:
4 Flood	60.7	:*****:	9 Aest	39.1	:*****:
5 ShoLi	17.5	:*****:**:	10 Educ	46.0	:*****:*

AVERAGE DECILE OF TEN MODELS: 4.10

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA023 PLACE: (Photo 4-6) Jct Rt88 & North Rd, HF

FL DATE : 03/26/86	GS&ABUN 20:	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB25	GS&ABUN 21:	wetl JUXtapos(HML): L
GS&ABUN 2 : ULMAME 1	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : POPTRE 2	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : RHUTYP 2	GS&ABUN 24:	Veg.Spec. Richness: L
GS&ABUN 5 : LONMOR 1	GS&ABUN 25:	
GS&ABUN 6 : ROSPAL10	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : aCERUB20	GS&ABUN 27:	WSI: 0.675
GS&ABUN 8 : SPILAT15	GS&ABUN 28:	WFV: 0.419
GS&ABUN 9 : VIBREC 2	GS&ABUN 29:	Perc. Wild. Food: H
GS&ABUN 10: ALNRUG30	GS&ABUN 30:	NO. of species: 13
GS&ABUN 11: sALIX 3	INVESTigator : ASG	Prime :
GS&ABUN 12: RUBALL 2	Dom Wetl Class (0-11): 7	Aesthetic: 0.043
GS&ABUN 13: ONOSEN 4	SPec ELEM (ADEFHRSW):	Tot ABUN: 117
GS&ABUN 14:	CLaSS Richn (1-5) : 2	Conifer? N
GS&ABUN 15:	SubTYpe Richn (ABCDE): D	Trees : 0.256
GS&ABUN 16:	VEGeta Intersp (HML) : L	Shrubs: 0.701
GS&ABUN 17:	Surr. HABitat (123) : 3	Herbs : 0.043
GS&ABUN 18:	Cover DISpers. (ABCDE): D	Bog : 0.000
GS&ABUN 19:	Percent Open W (LMHV): L	SBTY : CPUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID :TA023	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :N
Topo Config (CSVH) :C	FETch (LH or blank) :
Wetl SIZE (LMH) :L	DEPTH (SD or blank) :
Dom SOil type (int) : 538	HYdr CoN (None, Stream, River
Other SOil :	Lake or Combin. :N
Dom Surround Soil : 68	ACCeSs (Rd Wat Iso) :R
Other Surr. Soi11 :	POP'n density (LMH) :M
Other Surr. Soi12 :	loc SCARCity (LMH) :L
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :H	LEGAL accs (pub priv
TOpo. POSit. (LMH) :H	or Restricted) :V
Dom Hydr Condit(1-6):6	
RIParian conn (YN) :N	
INLet1 (Abs Perrenial or Ephemeral :E	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):T THICKness (LMH):L
INL4 (APE) :	HPOsition (Perch,W,A) :P GW Relat (DRC) :R
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTLet1 (APE) :A	

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 4-6) Jct Rt88 & North Rd, HF

TA023

Field Date: 03/26/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	25	0.50	T	3
Ulmus americana	American elm	1	0.82	T	1
Populus tremuloides	Quaking aspen	2	0.00	T	2
Rhus typhina	Staghorn sumac	2	0.00	T	2
Lonicera morrowi	Morrow's honeysuckle	1	0.00	S	1
Rosa palustris	Marsh rose	10	1.00	S	1
Acer rubrum	Red maple	20	0.50	S	3
Spiraea latifolia	Meadowsweet	15	0.50	S	0
Viburnum recognitum	Northern arrowwood	2	0.82	S	1
Alnus rugosa	Speckled alder	30	1.00	S	1
Salix sp.	Willow	3	0.82	S	1
Rubus allegheniensis	Blackberry	2	0.00	B	3
Onoclea sensibilis	Sensitive fern	4	1.00	H	0

WSI: 0.674 WFV: 0.418 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.19 BUSHY: 0.36 COMPACT: 0.12
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.03 NARROW: 0.00 FLOATING: 0.00
 SUBTYPES:CPW

WATERSHED: Taylor River TYPE: Wooded Swamp

RESULTS OF MODEL COMPUTATIONS

Benefit	Score	1-R-A-N-K-10
1 Biol	20.1	:* : :
2 Hydro	3.94	:* : :
3 GrWat	32.0	:** : :
4 Flood	60.7	:***** : :
5 ShoLi	0.00	:** : :

Benefit	Score	1-R-A-N-K-10
6 WQual	44.1	:** : :
7 Econ	56.5	:***** : :
8 Recr	19.1	:* : :
9 Aest	34.7	:*** : :
10 Educ	25.3	:* : :

AVERAGE DECILE OF TEN MODELS: 2.10

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA025 PLACE: (Photo 4-6) Kenney Brook, between I95 & Rt1, N of Rt88, HF

FL DATe : 04/14/86	GS&ABUN 20: TYPLAT 2	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB50	GS&ABUN 21: ASTER 3	wetl JUXtapos(HML): M
GS&ABUN 2 : BETPOP 2	GS&ABUN 22: SOLIDA 3	w. level FLUCtu (Hi
GS&ABUN 3 : ULMAME 2	GS&ABUN 23: ONOSEN30	Lo Vernal pool): L
GS&ABUN 4 : PRUSER 1	GS&ABUN 24: OSMCIN15	Veg.Spec. Richness: M
GS&ABUN 5 : ALNRUG 5	GS&ABUN 25: SPHAGN 8	
GS&ABUN 6 : PARQUI 2	GS&ABUN 26: COPGRO 2	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : RHURAD15	GS&ABUN 27: POLSAG 1	WSI: 0.722
GS&ABUN 8 : pINSTR 1	GS&ABUN 28: RANUNC 2	WFV: 0.344
GS&ABUN 9 : SAMCAN 1	GS&ABUN 29: CAREX 2	Perc. Wild. Food: M
GS&ABUN 10: pOPTRE 2	GS&ABUN 30: IMPCAP 2	NO. of species: 30
GS&ABUN 11: VACCOR 2	INVESTigator : GS	Prime :
GS&ABUN 12: VIBREC 8	Dom Wetl Class (0-11): 7	Aesthetic: 0.014
GS&ABUN 13: ILEVER 3	SPec ELEM (ADEFHRSW) :	Tot ABUN: 173
GS&ABUN 14: SPILAT 2	CLaSs Richn (1-5) : 3	Conifer? N
GS&ABUN 15: VIBCAS 1	SubTYpe Richn (ABCDE) : D	Trees : 0.318
GS&ABUN 16: RHAFRA 1	VEGeta Intersp (HML) : L	Shrubs: 0.269
GS&ABUN 17: LONICE 2	Surr. HABitat (123) : 2	Herbs : 0.413
GS&ABUN 18: RUBHIS 2	Cover DISpers. (ABCDE) : D	Bog : 0.046
GS&ABUN 19: SMILAX 1	Percent Open W (LMHV) : L	SBTY : MRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA025	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :L
Topo CONfig (CSVH) :S	FETch (LH or blank) :
Wetl SIZE (LMH) :L	DEPTH (SD or blank) :
Dom SOil type (int) : 538	HYdr CoN (None, Stream, River Lake or Combin. :S
Other SOil :	ACCeSSs (Rd Wat Iso) :R
Dom Surround Soil : 38	POP'n density (LMH) :L
Other Surr. Soil1 : 313	loc SCARCity (LMH) :L
Other Surr. Soil2 :	CROP (N Hay Fam Com):N
wetl GRAdient (LH) :H	LEGAL accs (pub priV or Restricted) :V
Surr. SLOpe (LH) :H	
TOpo. POsit. (LMH) :L	
Dom Hydr Condit(1-6):2	
RIParian conn (YN) :Y	
INLET1 (Abs Perrenial or Ephemeral :P	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):L THICKness (LMH):L
INL4 (APE) :	HPOSITION (Perch,W,A) :P GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTLET1 (APE) :P	

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-6) Kenney Brook, between I95 & Rt1, N of Rt88, HF
 TA025 Field Date: 04/14/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	50	0.50	T	3
Betula populifolia	Grey birch	2	0.50	T	2
Ulmus americana	American elm	2	0.82	T	1
Prunus serotina	Black cherry	1	0.18	T	3
Alnus rugosa	Speckled alder	5	1.00	S	1
Parthenocissus quinquefolia	Virginia creeper	2	0.00	S	1
Rhus radicans	Poison ivy	15	0.82	S	2
Pinus strobus	White pine	1	0.18	S	3
Sambucus canadensis	Elderberry	1	0.18	S	1
Populus tremuloides	Quaking aspen	2	0.00	S	2
Vaccinium corymbosum	Highbush blueberry	2	0.82	S	2
Viburnum recognitum	Northern arrowwood	8	0.82	S	1
Ilex verticillata	Winterberry	3	1.00	S	1
Spiraea latifolia	Meadowsweet	2	0.50	S	0
Viburnum cassinoides	Northern wild raisin	1	0.82	S	1
Rhamnus frangula	Europ. buckthorn	1	0.50	S	0
Lonicera sp.	Honeysuckle	2	0.00	S	0
Rubus hispida	Trailing bramble	2	0.50	B	3
Smilax sp.	Greenbriar	1	0.50	B	1
Typha latifolia	Cattail	2	1.00	H	1
Aster sp.	Asters	3		H	0
Solidago sp.	Goldenrod	3		H	0
Onoclea sensibilis	Sensitive fern	30	1.00	H	0
Osmunda cinnamomea	Cinnamon fern	15	0.82	H	0
Sphagnum sp.	Sphagnum moss	8	1.00	H	0
Coptis groenlandica	Goldthread	2	0.82	H	0
Polygonum sagittatum	Arrow-leaved tearthumb	1	1.00	H	3
Ranunculus sp.	Buttercup	2		H	0
Carex sp.	Sedge	2	1.00	H	3
Impatiens capensis	Jewelweed	2	0.82	H	0

WSI: 0.721 WVF: 0.343 BOG: 0.046 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.01 BUSHY: 0.13 COMPACT: 0.01

MARSH SBCL: ROBUST: 0.02 BROADL: 0.27 NARROW: 0.01 FLOATING: 0.00

SUBTYPES:MRUVW

WATERSHED: Taylor River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

1 Biol 34.8 :**** : : :
 2 Hydro 38.1 :** : : :
 3 GrWat 30.1 :** : . : :
 4 Flood 37.2 :* : : :
 5 ShoLi 17.5 :*****;** : :

Benefit Score 1-R-A-N-K-10

6 WQual 39.2 :* : : :
 7 Econ 56.5 :**** : : :
 8 Recr 21.9 :** : : :
 9 Aest 34.7 :*** : : :
 10 Educ 33.3 :*** : : :

AVERAGE DECILE OF TEN MODELS: 2.80

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA026 PLACE: (Photo 4-6) W of Rt1, N of Rt88, HF

FL DATE : 03/28/86	GS&ABUN 20:	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB30	GS&ABUN 21:	wet1 JUXtapos(HML): L
GS&ABUN 2 : ULMAME10	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : PINSTR 3	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : SASALB 1	GS&ABUN 24:	Veg.Spec. Richness: M
GS&ABUN 5 : BETLUT 1	GS&ABUN 25:	
GS&ABUN 6 : TSUCAN 1	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : ALNRUG 5	GS&ABUN 27:	WSI: 0.756
GS&ABUN 8 : VIBREC 9	GS&ABUN 28:	WFV: 0.328
GS&ABUN 9 : aCESAC 1	GS&ABUN 29:	Perc. Wild. Food: M
GS&ABUN 10: VACCOR 3	GS&ABUN 30:	NO. of species: 17
GS&ABUN 11: aCERUB15	INVESTigator : ASG	Prime :
GS&ABUN 12: ONOSEM20	Dom Wetl Class (0-11): 7	Aesthetic: 0.000
GS&ABUN 13: OSMCIN15	SPec ELem (ADEFHRSW):	Tot ABUN: 144
GS&ABUN 14: SPHAGN20	CLaSs Richn (1-5) : 3	Conifer? N
GS&ABUN 15: COPGRO 5	SubTYpe Richn (ABCDE): C	Trees : 0.319
GS&ABUN 16: TYPLAT 3	VEGeta Intersp (HML) : L	Shrubs: 0.229
GS&ABUN 17: CAREX 2	Surr. HABitat (123) : 1	Herbs : 0.451
GS&ABUN 18:	Cover DISpers.(ABCDE): E	Bog : 0.139
GS&ABUN 19:	Percent Open W (LMHV): L	SBTY : MPRUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA026	OUTlet2 (APE) :	
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :N	
Topo CONfig (CSVH) :S	FETch (LH or blank) :	
Wetl SIZe (LMH) :L	DEPTH (SD or blank) :	
Dom SOil type (int) : 214	HYdr CoN (None, Stream, River	
Other SOil :	Lake or Combin. :S	
Dom Surround Soil : 313	ACCeSS (Rd Wat Iso) :R	
Other Surr. Soill :	POP'n density (LMH) :L	
Other Surr. Soil2 :	loc SCARCity (LMH) :L	
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N	
Surr. SLOpe (LH) :H	LEGAL accs (puB priV	
TOpo. P0sit. (LMH) :H	or Restricted) :V	
Dom Hydr Condit(1-6):5		
RIParian conn (YN) :Y		
INLet1 (Abs Perrenial		
or Ephemeral :A		
INL2 (APE) :	CALCULATED FROM OTHER DATA AND SOIL:	
INL3 (APE) :	SurGeol Under wl(ALOT):O	PERmeabil (LMH):H
INL4 (APE) :	SurGeol Surround(ALOT):O	THICKness (LMH):L
INL5 (APE) :	HPOsition (Perch,W,A) :W	GW Relat (DRC) :C
OUTLet1 (APE) :E	TRAnsmissivity (LMH) :H	

* NC New Castle
 NH North Hampton

RY Rye
 HF Hampton Falls

HA Hampton
 SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 4-6) W of Rt1, N of Rt88, HF

TA026

Field Date: 03/28/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	30	0.50	T	3
Ulmus americana	American elm	10	0.82	T	1
Pinus strobus	White pine	3	0.18	T	3
Sassafras albidum	Sassafras	1	0.18	T	0
Betula lutea	Yellow birch	1	0.50	T	2
Tsuga canadensis	Hemlock	1	0.50	T	1
Alnus rugosa	Speckled alder	5	1.00	S	1
Viburnum recognitum	Northern arrowwood	9	0.82	S	1
Acer saccharum	Sugar maple	1	0.18	S	3
Vaccinium corymbosum	Highbush blueberry	3	0.82	S	2
Acer rubrum	Red maple	15	0.50	S	3
Onoclea sensibilis	Sensitive fern	20	1.00	H	0
Osmunda cinnamomea	Cinnamon fern	15	0.82	H	0
Sphagnum sp.	Sphagnum moss	20	1.00	H	0
Coptis groenlandica	Goldthread	5	0.82	H	0
Typha latifolia	Cattail	3	1.00	H	1
Carex sp.	Sedge	2	1.00	H	3

WSI: 0.755 WVF: 0.328 BOG: 0.138 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.11 BUSHY: 0.11 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.02 BROADL: 0.27 NARROW: 0.01 FLOATING: 0.00
 SUBTYPES:MPRUW

WATERSHED: Taylor River TYPE: Wooded Swamp

RESULTS OF MODEL COMPUTATIONS

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	34.1	:***:	6 WQual	41.1	:*:
2 Hydro	44.7	:**:	7 Econ	56.5	:*****:
3 GrWat	62.2	:*****:*****:	8 Recr	21.9	:**:
4 Flood	58.8	:***:	9 Aest	34.7	:***:
5 ShoLi	0.00	:**:	10 Educ	38.0	:*****:

AVERAGE DECILE OF TEN MODELS: 3.30

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA027 PLACE: (Photo 4-6) Kenney Brook, between I95 & Rt1, S of Rt88, HF
 FL DATE : 04/14/86 GS&ABUN 20: HYPVIR 1 Veg DENsity (HML) : H
 GS&ABUN 1 : ACERUB40 GS&ABUN 21: ASCINC 1 wetl JUXtapos(HML): M
 GS&ABUN 2 : PINSTR 3 GS&ABUN 22: SCICYP 1 w. level FLUctu (Hi
 GS&ABUN 3 : BETPOP 1 GS&ABUN 23: LYTSAL 2 Lo Vernal pool): L
 GS&ABUN 4 : VIBLEN 2 GS&ABUN 24: CAREX 3 Veg.Spec. Richness: M
 GS&ABUN 5 : CORAMO 2 GS&ABUN 25: CALPAL 1
 GS&ABUN 6 : sALIX 2 GS&ABUN 26: MIMRIN 1 ECOLOGICAL COMPUTATIONS:
 GS&ABUN 7 : ALNRUG15 GS&ABUN 27: ONOSEN55 WSI: 0.818
 GS&ABUN 8 : VACCOR 6 GS&ABUN 28: POa 7 WFV: 0.250
 GS&ABUN 9 : SPITOM 1 GS&ABUN 29: SOLIDA 6 Perc. Wild. Food: M
 GS&ABUN 10: ILEVER15 GS&ABUN 30: SPHAGN15 NO. of species: 30
 GS&ABUN 11: VIBREC40 INVESTigator : GS Prime :
 GS&ABUN 12: SPILAT 2 Dom Wetl Class (0-11): 6 Aesthetic: 0.039
 GS&ABUN 13: SAMCAN 2 SPec ELem (ADEFHRSW): Tot ABUN: 259
 GS&ABUN 14: aCERUB 2 CLaSS Richn (1-5) : 3 Conifer? N
 GS&ABUN 15: VITIS 1 SubTYpe Richn (ABCDE): D Trees : 0.178
 GS&ABUN 16: LONICE 2 VEGeta Intersp (HML) : L Shrubs: 0.351
 GS&ABUN 17: RUBHIS 2 Surr. HABitat (123) : 3 Herbs : 0.471
 GS&ABUN 18: OSMCIN20 Cover DISpers.(ABCDE): D Bog : 0.058
 GS&ABUN 19: JUNEFF 8 Percent Open W (LMHV): L SBTY : MNUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA
 Wet ID :TA027 OUTlet2 (APE) :
 2 letter TOWN codes*:HF P% Bord OW (NLMH) :L
 Topo CONfig (CSVH) :S FETch (LH or blank) :
 Wetl SIze (LMH) :M DEPTH (SD or blank) :
 Dom SOil type (int) : 538 HYdr CoN (None, Stream, River
 Other SOil : Lake or Combin. :S
 Dom Surround Soil : 38 ACCeSs (Rd Wat Iso) :R
 Other Surr. Soi1 : 510 POP'n density (LMH) :L
 Other Surr. Soi2 : loc SCARCity (LMH) :L
 wetl GRAdient (LH) :L CROP (N Hay Fam Com):N
 Surr. SLOpe (LH) :H LEGAL accs (puB priV
 TOpo. POsit. (LMH) :H or Restricted) :V
 Dom Hydr Condit(1-6):5
 RIParian conn (YN) :Y
 INLet1 (Abs Perrenial
 or Ephemeral :E CALCULATED FROM OTHER DATA AND SOIL:
 INL2 (APE) :E SurGeol Under wl(ALOT):L PERmeabil (LMH):L
 INL3 (APE) :E SurGeol Surround(ALOT):L THIckness (LMH):L
 INL4 (APE) : E HPOsition (Perch,W,A) :P GW Relat (DRC) :C
 INL5 (APE) : E TRAnsmissivity (LMH) :L

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-6) Kenney Brook, between I95 & Rt1, S of Rt88, HF
 TA027 Field Date: 04/14/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	40	0.50	T	3
Pinus strobus	White pine	3	0.18	T	3
Betula populifolia	Grey birch	1	0.50	T	2
Viburnum lentago	Nannyberry	2	0.00	T	1
Cornus amomum	Silky dogwood	2	0.82	S	3
Salix sp.	Willow	2	0.82	S	1
Alnus rugosa	Speckled alder	15	1.00	S	1
Vaccinium corymbosum	Highbush blueberry	6	0.82	S	2
Spiraea tomentosa	Steeplebush	1	0.50	S	0
Ilex verticillata	Winterberry	15	1.00	S	1
Viburnum recognitum	Northern arrowwood	40	0.82	S	1
Spiraea latifolia	Meadowsweet	2	0.50	S	0
Sambucus canadensis	Elderberry	2	0.18	S	1
Acer rubrum	Red maple	2	0.50	S	3
Vitis sp.	Grapevine	1		S	3
Lonicera sp.	Honeysuckle	2	0.00	S	0
Rubus hispida	Trailing bramble	2	0.50	B	3
Osmunda cinnamomea	Cinnamon fern	20	0.82	H	0
Juncus effusus	Soft rush	8	1.00	H	0
Hypericum virginicum	Marsh st. johnswort	1	1.00	H	0
Asclepias incarnata	Swamp milkweed	1	1.00	H	0
Scirpus cyperinus	Woolgrass	1	1.00	H	3
Lythrum salicaria	Purple loosestrife	2	1.00	H	0
Carex sp.	Sedge	3	1.00	H	3
Caltha palustris	Marsh marigold	1	1.00	H	0
Mimulus ringens	Monkey-flower	1	1.00	H	0
Onoclea sensibilis	Sensitive fern	55	1.00	H	0
Poaceae	Grasses	7		H	1
Solidago sp.	Goldenrod	6		H	0
Sphagnum sp.	Sphagnum moss	15	1.00	H	0

WSI: 0.817 WVF: 0.250 BOG: 0.057 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.01 BUSHY: 0.31 COMPACT: 0.01
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.29 NARROW: 0.07 FLOATING: 0.00
 SUBTYPES: MNUW

WATERSHED: Taylor River TYPE: Shrub Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	45.7	:*****:*	6 WQual	63.7	:*****:*****:
2 Hydro	64.4	:*****:***:	7 Econ	56.5	:*****:
3 GrWat	37.7	:****:	8 Recr	30.1	:****:
4 Flood	68.6	:*****:*****:	9 Aest	31.8	:**:
5 ShoLi	19.6	:*****:***:	10 Educ	41.2	:****:

AVERAGE DECILE OF TEN MODELS: 5.70

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
WID: TA030 PLACE: (Photo 5-6) Headwaters of Grapevine Run, HF

FL DATE : 04/18/86	GS&ABUN 20: ONOSEN30	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB15	GS&ABUN 21: CALPAL 1	wetl JUXtapos(HML): H
GS&ABUN 2 : PINSTR 3	GS&ABUN 22: SYMFOE 2	w. level FLUCtu (Hi
GS&ABUN 3 : JUNVIR 1	GS&ABUN 23: EQUISE 1	Lo Vernal pool): L
GS&ABUN 4 : ULMAME 1	GS&ABUN 24: SOLIDA 2	Veg.Spec. Richness: M
GS&ABUN 5 : ROSPAL 1	GS&ABUN 25: SPHAGN 5	
GS&ABUN 6 : SAMCAN 1	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : VACCOR 2	GS&ABUN 27:	WSI: 0.843
GS&ABUN 8 : ALNRUG15	GS&ABUN 28:	WFV: 0.381
GS&ABUN 9 : aCERUB10	GS&ABUN 29:	Perc. Wild. Food: M
GS&ABUN 10: pINSTR 2	GS&ABUN 30:	NO. of species: 25
GS&ABUN 11: VIBREC 3	INvestigator : ASG	Prime : P
GS&ABUN 12: ILEVER 5	Dom Wetl Class (0-11): 3	Aesthetic: 0.024
GS&ABUN 13: LONMOR 2	SPec ELeM (ADEFHRSW):	Tot ABUN: 168
GS&ABUN 14: RHURAD 6	CLaSs Richn (1-5) : 5	Conifer? N
GS&ABUN 15: SPILAT 3	SubTYpe Richn (ABCDE): B	Trees : 0.119
GS&ABUN 16: RUBOCC 1	VEGeta Intersp (HML) : H	Shrubs: 0.304
GS&ABUN 17: RUBIDA 1	Surr. HABitat (123) : 1	Herbs : 0.577
GS&ABUN 18: TYPLAT25	Cover DISpers.(ABCDE): A	Bog : 0.030
GS&ABUN 19: CARSTR30	Percent Open W (LMHV): L	SBTY : MNPRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID :TA030	OUTlet2 (APE) :
2 letter TOWN codes*:HF	% Bord OW (NLMH) :M
Topo Config (CSVH) :S	FETch (LH or blank) :
Wetl SIZe (LMH) :M	DEPTH (SD or blank) :
Dom SOil type (int) : 197	HYdr CoN (None, Stream, River
Other SOil : 33	Lake or Combin. :S
Dom Surround Soil : 40	ACCeSs (Rd Wat Iso) :R
Other Surr. Soil1 : 32	POP'n density (LMH) :L
Other Surr. Soil2 :	loc SCARcity (LMH) :M
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :H	LEGAL accs (puB priV
TOpo. POsit. (LMH) :M	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIPARIan conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :P	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :E	SurGeol Under wl(ALOT):L PERMeabil (LMH):M
INL3 (APE) :E	SurGeol Surround(ALOT):T THICKness (LMH):M
INL4 (APE) :E	HPOsition (Perch,W,A) :W GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTlet1 (APE) :P	

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 5-6) Headwaters of Grapevine Run, HF
 TA030 Field Date: 04/18/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	15	0.50	T	3
Pinus strobus	White pine	3	0.18	T	3
Juniperus virginiana	Red cedar	1	0.18	T	1
Ulmus americana	American elm	1	0.82	T	1
Rosa palustris	Marsh rose	1	1.00	S	1
Sambucus canadensis	Elderberry	1	0.18	S	1
Vaccinium corymbosum	Highbush blueberry	2	0.82	S	2
Alnus rugosa	Speckled alder	15	1.00	S	1
Acer rubrum	Red maple	10	0.50	S	3
Pinus strobus	White pine	2	0.18	S	3
Viburnum recognitum	Northern arrowwood	3	0.82	S	1
Ilex verticillata	Winterberry	5	1.00	S	1
Lonicera morrowi	Morrow's honeysuckle	2	0.00	S	1
Rhus radicans	Poison ivy	6	0.82	S	2
Spiraea latifolia	Meadowsweet	3	0.50	S	0
Rubus occidentalis	Black raspberry	1	0.00	B	3
Rubus idaeus	Red raspberry	1	0.00	B	3
Typha latifolia	Cattail	25	1.00	H	1
Carex stricta	Tussock sedge	30	1.00	H	3
Onoclea sensibilis	Sensitive fern	30	1.00	H	0
Caltha palustris	Marsh marigold	1	1.00	H	0
Symplocarpus foetidus	Skunk cabbage	2	1.00	H	0
Equisetum sp.	Horsetail	1		H	0
Solidago sp.	Goldenrod	2		H	0
Sphagnum sp.	Sphagnum moss	5	1.00	H	0

WSI: 0.843 WVF: 0.380 BOG: 0.029 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.07 BUSHY: 0.17 COMPACT: 0.01
 MARSH SBCL: ROBUST: 0.14 BROADL: 0.19 NARROW: 0.18 FLOATING: 0.00
 SUBTYPES: MNPRUVW

WATERSHED: Taylor River TYPE: Shallow Fresh Marsh

RESULTS OF MODEL COMPUTATIONS

Benefit Score 1-R-A-N-K-10

1 Biol	84.4	:*****:*****:
2 Hydro	72.3	:*****:**** :
3 GrWat	54.7	:*****:*** :
4 Flood	64.7	:*****:** :
5 ShoLi	22.7	:*****:**** :

AVERAGE DECILE OF TEN MODELS: 8.60

Benefit Score 1-R-A-N-K-10

6 WQual	68.6	:*****:*****:
7 Econ	65.2	:*****: :
8 Recr	43.8	:*****:*** :
9 Aest	59.4	:*****:*****:
10 Educ	71.4	:*****:*****:

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA033 PLACE: (Photo 5-6) Cock Hill Rd, N of Crank Rd, HF

FL DATE : 03/28/86	GS&ABUN 20:	Veg DENSITY (HML) : M
GS&ABUN 1 : ACERUB50	GS&ABUN 21:	wetl JUXtapos(HML): M
GS&ABUN 2 : FRAAME 4	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : PINSTR 6	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : ACESAC 1	GS&ABUN 24:	Veg.Spec. Richness: M
GS&ABUN 5 : uLMAME10	GS&ABUN 25:	
GS&ABUN 6 : aCERUB20	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : pINSTR 6	GS&ABUN 27:	WSI: 0.512
GS&ABUN 8 : VACCOR 4	GS&ABUN 28:	WFV: 0.582
GS&ABUN 9 : tSUCAN 2	GS&ABUN 29:	Perc. Wild. Food: H
GS&ABUN 10: aCESAC 6	GS&ABUN 30:	NO. of species: 15
GS&ABUN 11: LONMOR 1	INVESTigator : ASG	Prime :
GS&ABUN 12: ONOSEN 3	Dom Wetl Class (0-11): 7	Aesthetic: 0.000
GS&ABUN 13: SPHAGN 6	SPec ELEM (ADEFHRSW):	Tot ABUN: 128
GS&ABUN 14: POa 6	CLaSS Richn (1-5) : 2	Conifer? N
GS&ABUN 15: GAUPRO 3	SubTYpe Richn (ABCDE): E	Trees : 0.477
GS&ABUN 16:	VEGeta Intersp (HML) : L	Shrubs: 0.383
GS&ABUN 17:	Surr. HABitat (123) : 1	Herbs : 0.141
GS&ABUN 18:	Cover DISpers.(ABCDE): E	Bog : 0.047
GS&ABUN 19:	Percent Open W (LMHV): L	SBTY : CMNPUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA033	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :L
Topo CONfig (CSVH) :S	FETch (LH or blank) :
Wetl SIZE (LMH) :M	DEPTH (SD or blank) :
Dom SOil type (int) : 538	HYdr CoN (None, Stream, River
Other SOil :	Lake or Combin. :S
Dom Surround Soil : 40	ACCeSS (Rd Wat Iso) :R
Other Surr. Soil1 : 510	POP'n density (LMH) :L
Other Surr. Soil2 : 29	loc SCARCity (LMH) :L
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Surr. SLope (LH) :H	LEGAL accs (pub priV
TOpo. P0sit. (LMH) :H	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIParian conn (YN) :Y	
INLET1 (Abs Perrenial or Ephemeral :E	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):T THICKness (LMH):L
INL4 (APE) :	HPOSITION (Perch,W,A) :P GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTLet1 (APE) :P	

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 5-6) Cock Hill Rd, N of Crank Rd, HF
 TA033 Field Date: 03/28/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	50	0.50	T	3
Fraxinus americana	White ash	4	0.50	T	1
Pinus strobus	White pine	6	0.18	T	3
Acer saccharum	Sugar maple	1	0.18	T	3
Ulmus americana	American elm	10	0.82	S	1
Acer rubrum	Red maple	20	0.50	S	3
Pinus strobus	White pine	6	0.18	S	3
Vaccinium corymbosum	Highbush blueberry	4	0.82	S	2
Tsuga canadensis	Hemlock	2	0.50	S	1
Acer saccharum	Sugar maple	6	0.18	S	3
Lonicera morrowi	Morrow's honeysuckle	1	0.00	S	1
Onoclea sensibilis	Sensitive fern	3	1.00	H	0
Sphagnum sp.	Sphagnum moss	6	1.00	H	0
Poaceae	Grasses	6		H	1
Gaultheria procumbens	Wintergreen	3	0.18	H	0

WSI: 0.511 WVF: 0.582 BOG: 0.046 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.34 BUSHY: 0.03 COMPACT: 0.02
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.02 NARROW: 0.04 FLOATING: 0.00
 SUBTYPES: CMNPUW

WATERSHED: Taylor River TYPE: Wooded Swamp

RESULTS OF MODEL COMPUTATIONS

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	34.1	:**** :	6 WQual	49.0	:***** :
2 Hydro	61.8	:*****;** :	7 Econ	73.9	:*****;** :
3 GrWat	33.9	:**** :	8 Recr	32.8	:**** :
4 Flood	62.7	:*****;* :	9 Aest	26.0	:* :
5 ShoLi	17.5	:****;** :	10 Educ	28.5	:** :

AVERAGE DECILE OF TEN MODELS: 4.40

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA034 PLACE: (Photo 5-6,8) Grapevine Run, S of Rt88, HF

FL DATE : 03/28/86	GS&ABUN 20:	Veg DENSity (HML) : M
GS&ABUN 1 : ACERUB30	GS&ABUN 21:	wetl JUXtapos(HML): M
GS&ABUN 2 : QUERUB 2	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : BETPAP 1	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : POPTRE 1	GS&ABUN 24:	Veg.Spec. Richness: M
GS&ABUN 5 : ULMAME 6	GS&ABUN 25:	
GS&ABUN 6 : FAGGRA 1	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : PINSTR 3	GS&ABUN 27:	WSI: 0.700
GS&ABUN 8 : CORAMO 4	GS&ABUN 28:	WFV: 0.472
GS&ABUN 9 : sALNIG 2	GS&ABUN 29:	Perc. Wild. Food: H
GS&ABUN 10: ALNRUG15	GS&ABUN 30:	NO. of species: 18
GS&ABUN 11: ROSPAL 5	INVESTigator : ASG	Prime :
GS&ABUN 12: LINBEN 1	Dom Wetl Class (0-11): 7	Aesthetic: 0.028
GS&ABUN 13: SALDIS 3	SPec ELEM (ADEFHRSW):	Tot ABUN: 90
GS&ABUN 14: SPILAT 4	CLaSS Richn (1-5) : 5	Conifer? N
GS&ABUN 15: VIBREC 4	SubTYpe Richn (ABCDE): C	Trees : 0.489
GS&ABUN 16: TYPLAT 2	VEGeta Intersp (HML) : M	Shrubs: 0.422
GS&ABUN 17: SCICYP 2	Surr. HABitat (123) : 1	Herbs : 0.089
GS&ABUN 18: ONOSEN 4	Cover DISpers.(ABCDE): D	Bog : 0.000
GS&ABUN 19:	Percent Open W (LMHV): L	SBTY : CNPRUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA034	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :L
Topo CONfig (CSVH) :S	FETch (LH or blank) :
Wetl SIZE (LMH) :M	DEPTH (SD or blank) :
Dom SOil type (int) : 538	HYdr CoN (None, Stream, River
Other SOil :	Lake or Combin. :S
Dom Surround Soil : 43	ACCeSs (Rd Wat Iso) :R
Other Surr. Soi1 : 32	POP'n density (LMH) :L
Other Surr. Soi2 : 40	loc SCARCity (LMH) :L
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :H	LEGAL accs (pub priv
TOpo. P0sit. (LMH) :M	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIParian conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :P	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :P	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):T THICKness (LMH):L
INL4 (APE) :	HPOSITION (Perch,W,A) :P GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTLet1 (APE) :P	

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 5-6,8) Grapevine Run, S of Rt88, HF
 TA034 Field Date: 03/28/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	30	0.50	T	3
Quercus rubra	Northern red oak	2	0.18	T	4
Betula papyrifera	Paper birch	1	0.18	T	2
Populus tremuloides	Quaking aspen	1	0.00	T	2
Ulmus americana	American elm	6	0.82	T	1
Fagus grandifolia	Beech	1	0.18	T	3
Pinus strobus	White pine	3	0.18	T	3
Cornus amomum	Silky dogwood	4	0.82	S	3
Salix nigra	Black willow	2	1.00	S	1
Alnus rugosa	Speckled alder	15	1.00	S	1
Rosa palustris	Marsh rose	5	1.00	S	1
Lindera benzoin	Spicebush	1	0.82	S	1
Salix discolor	Pussy willow	3	0.82	S	1
Spiraea latifolia	Meadowsweet	4	0.50	S	0
Viburnum recognitum	Northern arrowwood	4	0.82	S	1
Typha latifolia	Cattail	2	1.00	H	1
Scirpus cyperinus	Woolgrass	2	1.00	H	3
Onoclea sensibilis	Sensitive fern	4	1.00	H	0

WSI: 0.700 WFW: 0.472 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.05 BUSHY: 0.32 COMPACT: 0.04
 MARSH SBCL: ROBUST: 0.02 BROADL: 0.04 NARROW: 0.02 FLOATING: 0.00
 SUBTYPES: CNPRUW

WATERSHED: Taylor River TYPE: Wooded Swamp

RESULTS OF MODEL COMPUTATIONS

Benefit Score 1-R-A-N-K-10

1 Biol	53.4	:*****:** :	
2 Hydro	65.7	:*****:*** :	
3 GrWat	39.6	:***** :	
4 Flood	62.7	:*****:*	:
5 SholI	17.5	:*****:** :	

AVERAGE DECILE OF TEN MODELS: 6.50

Benefit Score 1-R-A-N-K-10

6 WQual	56.8	:*****:** :	
7 Econ	73.9	:*****:*** :	
8 Recr	41.0	:*****:*** :	
9 Aest	39.1	:*****:	:
10 Educ	53.9	:*****:*** :	

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA036 PLACE: (Photo 5-8) Grapevine Run, Rt88, HF

FL DATE : 04/01/86	GS&ABUN 20: LYTSAL 5	Veg DENsity (HML) : H
GS&ABUN 1: ACERUB 7	GS&ABUN 21: TYPANG 4	wetl JUXtapos(HML): H
GS&ABUN 2: PINSTR 2	GS&ABUN 22: CAREX 25	w. level FLUCtu (Hi
GS&ABUN 3: BETPOP 2	GS&ABUN 23: ASTER 2	Lo Vernal pool): L
GS&ABUN 4: POPTRE 1	GS&ABUN 24: SOLIDA 4	Veg.Spec. Richness: H
GS&ABUN 5: SALIX 12	GS&ABUN 25: ONOSEN10	
GS&ABUN 6: uLMAME 1	GS&ABUN 26: JUNEFF 5	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7: ALNRUG30	GS&ABUN 27: LYCOPU 1	WSI: 0.824
GS&ABUN 8: VIBREC15	GS&ABUN 28:	WFV: 0.320
GS&ABUN 9: CORSTO 3	GS&ABUN 29:	Perc. Wild. Food: M
GS&ABUN 10: ROSPAL 5	GS&ABUN 30:	NO. of species: 27
GS&ABUN 11: SPILAT 7	INVESTigator : HCS	Prime : P
GS&ABUN 12: RHURAD10	Dom Wetl Class (0-11): 6	Aesthetic: 0.027
GS&ABUN 13: LONICE12	SPec ELEM (ADEFHRSW):	Tot ABUN: 188
GS&ABUN 14: POa 5	CLaSS Richn (1-5) : 5	Conifer? N
GS&ABUN 15: SCICYP 1	SubTYpe Richn (ABCDE): B	Trees : 0.128
GS&ABUN 16: CARSTR 2	VEGeta Intersp (HML) : M	Shrubs: 0.441
GS&ABUN 17: CAREXA 3	Surr. HABitat (123) : 2	Herbs : 0.431
GS&ABUN 18: EPILEP 2	Cover DISpers.(ABCDE): D	Bog : 0.000
GS&ABUN 19: TYPLAT12	Percent Open W (LMHV): L	SBTY : CNRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID :TA036	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :L
Topo Config (CSVH) :S	FETch (LH or blank) :
Wetl SIZe (LMH) :M	DEPTH (SD or blank) :
Dom SOil type (int) : 33	HYdr CoN (None, Stream, River
Other SOil : 197	Lake or Combin. :S
Dom Surround Soil : 510	ACCeSs (Rd Wat Iso) :R
Other Surr. Soi1 : 32	POP'n density (LMH) :L
Other Surr. Soi2 : 44	loc SCARCity (LMH) :L
wetl GRAdient (LH) :H	CROP (N Hay Fam Com):C
Surr. SLOpe (LH) :H	LEGAL accs (puB priV
TOpo. P0sit. (LMH) :M	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIParian conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :P	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :E	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):O THICKness (LMH):L
INL4 (APE) :	HPOsition (Perch,W,A) :P GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L
OUTLet1 (APE) :P	

* NC New Castle
 NH North Hampton

RY Rye
 HF Hampton Falls

HA Hampton
 SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 5-8) Grapevine Run, Rt88, HF

TA036

Field Date: 04/01/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	7	0.50	T	3
Pinus strobus	White pine	2	0.18	T	3
Betula populifolia	Grey birch	2	0.50	T	2
Populus tremuloides	Quaking aspen	1	0.00	T	2
Salix sp.	Willow	12	0.82	T	1
Ulmus americana	American elm	1	0.82	S	1
Alnus rugosa	Speckled alder	30	1.00	S	1
Viburnum recognitum	Northern arrowwood	15	0.82	S	1
Cornus stolonifera	Red-osier dogwood	3	0.82	S	3
Rosa palustris	Marsh rose	5	1.00	S	1
Spiraea latifolia	Meadowsweet	7	0.50	S	0
Rhus radicans	Poison ivy	10	0.82	S	2
Lonicera sp.	Honeysuckle	12	0.00	S	0
Poaceae	Grasses	5		H	1
Scirpus cyperinus	Woolgrass	1	1.00	H	3
Carex stricta	Tussock sedge	2	1.00	H	3
Carex sp.(A)	A Sedge	3	1.00	H	3
Epilobium leptophyllum	Narrow-leaf willowweed	2	0.50	H	1
Typha latifolia	Cattail	12	1.00	H	1
Lythrum salicaria	Purple loosestrife	5	1.00	H	0
Typha angustifolia	Narrowleaf cattail	4	1.00	H	1
Carex sp.	Sedge	25	1.00	H	3
Aster sp.	Asters	2		H	0
Solidago sp.	Goldenrod	4		H	0
Onoclea sensibilis	Sensitive fern	10	1.00	H	0
Juncus effusus	Soft rush	5	1.00	H	0
Lycopus sp.	Waterhorehound	1		H	0

WSI: 0.823 WVF: 0.320 BOG: 0.000 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.34 COMPACT: 0.03

MARSH SBCL: ROBUST: 0.11 BROADL: 0.05 NARROW: 0.23 FLOATING: 0.00

SUBTYPES:CNRUUVW

WATERSHED: Taylor River

TYPE: Shrub Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

Benefit Score 1-R-A-N-K-10

1 Biol	65.8	:*****:*****:
2 Hydro	64.4	:*****:****:
3 GrWat	37.7	:*****:
4 Flood	61.7	:*****: :
5 ShoLi	19.6	:*****:***:

6 WQual	65.6	:*****:*****:
7 Econ	56.5	:*****:
8 Recr	34.2	:*****:
9 Aest	40.5	:*****:*
10 Educ	66.6	:*****:***:

AVERAGE DECILE OF TEN MODELS: 6.70

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA037 PLACE: (Photo 4-8,5-8) Grapevine Run, between Rt88 & North Rd, HF
 FL DATE : 04/09/86 GS&ABUN 20: ONOSEN18 Veg DENsity (HML) : H
 GS&ABUN 1 : ACERUB11 GS&ABUN 21: CAREX 19 wetl JUXtapos(HML): H
 GS&ABUN 2 : PINSTR10 GS&ABUN 22: SPHAGN 5 w. level FLUctu (Hi
 GS&ABUN 3 : BETPOP 1 GS&ABUN 23: OSMREG 1 Lo Vernal pool): L
 GS&ABUN 4 : ULMAME 1 GS&ABUN 24: OSMCIN 1 Veg.Spec. Richness: H
 GS&ABUN 5 : FRAAME 1 GS&ABUN 25: POa 1
 GS&ABUN 6 : aCERUB 1 GS&ABUN 26: JUNEFF 1 ECOLOGICAL COMPUTATIONS:
 GS&ABUN 7 : uLMAME 1 GS&ABUN 27: SOLIDA 1 WSI: 0.850
 GS&ABUN 8 : VIBREC 6 GS&ABUN 28: ASTER 1 WFV: 0.340
 GS&ABUN 9 : ALNRUG 9 GS&ABUN 29: TYPLAT19 Perc. Wild. Food: M
 GS&ABUN 10: ROSPAL 4 GS&ABUN 30: CAREXA 4 NO. of species: 30
 GS&ABUN 11: LONICE 1 INVestigator : HCS Prime : P
 GS&ABUN 12: ILEVER 5 Dom Wetl Class (0-11): 7 Aesthetic: 0.071
 GS&ABUN 13: SPILAT 2 SPec ELEM (ADEFHRSW): Tot ABUN: 141
 GS&ABUN 14: RHAFRA 2 CLaSs Richn (1-5) : 3 Conifer? N
 GS&ABUN 15: LYOLIG 1 SubTYpe Richn (ABCDE): D Trees : 0.170
 GS&ABUN 16: VACCOR 1 VEGeta Intersp (HML) : M Shrubs: 0.245
 GS&ABUN 17: CORAMO 1 Surr. HABitat (123) : 2 Herbs : 0.585
 GS&ABUN 18: RUBHIS 1 Cover DISpers.(ABCDE): E Bog : 0.035
 GS&ABUN 19: LYTSAL11 Percent Open W (LMHV): L SBTY : MNRUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA
 Wet ID :TA037 OUTlet2 (APE) :
 2 letter TOWN codes*:HF % Bord OW (NLMH) :N
 Topo CONfig (CSVH) :S FETch (LH or blank) :
 Wetl SIze (LMH) :M DEPTH (SD or blank) :
 Dom SOil type (int) : 197 HYdr CoN (None, Stream, River
 Other SOil : 538 Lake or Combin. :S
 Dom Surround Soil : 33 ACCeSS (Rd Wat Iso) :R
 Other Surr. Soill : 197 POP'n density (LMH) :L
 Other Surr. Soil2 : 547 loc SCARCity (LMH) :M
 wetl GRAdient (LH) :H CROP (N Hay Fam Com):N
 Surr. SLOpe (LH) :H LEGAL accs (puB priV
 TOpo. POsit. (LMH) :H or Restricted) :V
 Dom Hydr Condit(1-6):5
 RIParian conn (YN) :Y
 INLet1 (Abs Perrenial
 or Ephemeral :E CALCULATED FROM OTHER DATA AND SOIL:
 INL2 (APE) :E SurGeol Under w1(ALOT):L PERmeabil (LMH):M
 INL3 (APE) :E SurGeol Surround(ALOT):L THICKness (LMH):M
 INL4 (APE) :E HPOSiition (Perch,W,A) :W GW Relat (DRC) :C
 INL5 (APE) :E TRAnsmissivity (LMH) :L
 OUTLet1 (APE) :P

* NC New Castle RY Rye HA Hampton
 NH North Hampton HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-8,5-8) Grapevine Run, between Rt88 & North Rd, HF
 TA037 Field Date: 04/09/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	11	0.50	T	3
Pinus strobus	White pine	10	0.18	T	3
Betula populifolia	Grey birch	1	0.50	T	2
Ulmus americana	American elm	1	0.82	T	1
Fraxinus americana	White ash	1	0.50	T	1
Acer rubrum	Red maple	1	0.50	S	3
Ulmus americana	American elm	1	0.82	S	1
Viburnum recognitum	Northern arrowwood	6	0.82	S	1
Alnus rugosa	Speckled alder	9	1.00	S	1
Rosa palustris	Marsh rose	4	1.00	S	1
Lonicera sp.	Honeysuckle	1	0.00	S	0
Ilex verticillata	Winterberry	5	1.00	S	1
Spiraea latifolia	Meadowsweet	2	0.50	S	0
Rhamnus frangula	Europ. buckthorn	2	0.50	S	0
Lyonia ligustrina	Maleberry	1	1.00	S	0
Vaccinium corymbosum	Highbush blueberry	1	0.82	S	2
Cornus amomum	Silky dogwood	1	0.82	S	3
Rubus hispida	Trailing bramble	1	0.50	B	3
Lythrum salicaria	Purple loosestrife	11	1.00	H	0
Onoclea sensibilis	Sensitive fern	18	1.00	H	0
Carex sp.	Sedge	19	1.00	H	3
Sphagnum sp.	Sphagnum moss	5	1.00	H	0
Osmunda regalis	Royal fern	1	1.00	H	0
Osmunda cinnamomea	Cinnamon fern	1	0.82	H	0
Poaceae	Grasses	1		H	1
Juncus effusus	Soft rush	1	1.00	H	0
Solidago sp.	Goldenrod	1		H	0
Aster sp.	Asters	1		H	0
Typha latifolia	Cattail	19	1.00	H	1
Carex sp.(A)	A Sedge	4	1.00	H	3

WSI: 0.850 WVF: 0.340 BOG: 0.035 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.01 BUSHY: 0.21 COMPACT: 0.01

MARSH SBCL: ROBUST: 0.21 BROADL: 0.14 NARROW: 0.17 FLOATING: 0.00

SUBTYPES: MNRUW

WATERSHED: Taylor River

TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

1 Biol	46.5	:*****:*	:
2 Hydro	59.2	:*****:*	:
3 GrWat	50.9	:*****:***	:
4 Flood	67.6	:*****:****	:
5 ShoLi	0.00	:**	:

Benefit Score 1-R-A-N-K-10

6 WQual	57.8	:*****:***	:
7 Econ	73.9	:*****:**	:
8 Recr	36.9	:*****:*	:
9 Aest	39.1	:*****:	:
10 Educ	53.9	:*****:**	:

AVERAGE DECILE OF TEN MODELS: 6.20

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA039 PLACE: (Photo 5-8) Mill Rd, HF
 FL DATE : 04/03/86 GS&ABUN 20: RUBIDA 1 Veg DENSITY (HML) : H
 GS&ABUN 1 : ACERUB10 GS&ABUN 21: OSMCIN 4 wetl JUXtapos(HML) : L
 GS&ABUN 2 : ULMAME 1 GS&ABUN 22: SCICYP 2 w. level FLUCtu (Hi
 GS&ABUN 3 : PINSTR30 GS&ABUN 23: TYPLAT 5 Lo Vernal pool): L
 GS&ABUN 4 : JUNVIR 1 GS&ABUN 24: ONOSEN15 Veg.Spec. Richness: H
 GS&ABUN 5 : BETLUT 1 GS&ABUN 25: CAREXA 8
 GS&ABUN 6 : VACCOR 2 GS&ABUN 26: JUNEFF 2 ECOLOGICAL COMPUTATIONS:
 GS&ABUN 7 : LONICE 2 GS&ABUN 27: CARSTR 2 WSI: 0.713
 GS&ABUN 8 : VIBREC 3 GS&ABUN 28: SPHAGN 1 WFV: 0.441
 GS&ABUN 9 : aCERUB 3 GS&ABUN 29: EPICOL 1 Perc. Wild. Food: H
 GS&ABUN 10: uLMAME 1 GS&ABUN 30: NO. of species: 29
 GS&ABUN 11: RHURAD50 INVESTIGATOR : HCS Prime : P
 GS&ABUN 12: ILEVER15 Dom Wetl Class (0-11): 7 Aesthetic: 0.047
 GS&ABUN 13: SPILAT 8 SPec ELEM (ADEFHRSW) : Tot ABUN: 181
 GS&ABUN 14: ALNRUG 6 CLaSs Richn (1-5) : 4 Conifer? N
 GS&ABUN 15: ROSPAL 1 SubTYpe Richn (ABCDE) : C Trees : 0.238
 GS&ABUN 16: SPITOM 1 VEGeta Intersp (HML) : M Shrubs: 0.539
 GS&ABUN 17: sALIX 2 Surr. HABitat (123) : 2 Herbs : 0.224
 GS&ABUN 18: CORSTO 2 Cover DISpers.(ABCDE) : B Bog : 0.006
 GS&ABUN 19: VITIS 1 Percent Open W (LMHV) : L SBTY : CMNPRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA
 Wet ID : TA039 OUTLET2 (APE) :
 2 letter TOWN codes*:HF P% Bord OW (NLMH) :L
 Topo Config (CSVH) :S FETch (LH or blank) :
 Wetl SIZE (LMH) :M DEPTH (SD or blank) :
 Dom Soil type (int) : 33 HYdr CoN (None, Stream, River
 Other Soil : 95 Lake or Combin. :S
 Dom Surround Soil : 510 ACCeSs (Rd Wat Iso) :R
 Other Surr. Soil1 : 14 POP'n density (LMH) :L
 Other Surr. Soil2 : loc SCARCity (LMH) :L
 wetl GRAdient (LH) :H CROP (N Hay Fam Com):N
 Surr. SLOpe (LH) :H LEGAL accs (puB priV
 TOpo. POsit. (LMH) :H or Restricted) :V
 Dom Hydr Condit(1-6):5
 RIParian conn (YN) :Y
 INLET1 (Abs Perrenial
 or Ephemeral :E CALCULATED FROM OTHER DATA AND SOIL:
 INL2 (APE) : SurGeol Under wl(ALOT):L PERmeabil (LMH):L
 INL3 (APE) : SurGeol Surround(ALOT):O THICKness (LMH):L
 INL4 (APE) : HPOsition (Perch,W,A) :P GW Relat (DRC) :C
 INL5 (APE) : TRAnsmissivity (LMH) :L

* NC New Castle RY Rye HA Hampton
 NH North Hampton HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 5-8) Mill Rd, HF

TA039

Field Date: 04/03/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	10	0.50	T	3
Ulmus americana	American elm	1	0.82	T	1
Pinus strobus	White pine	30	0.18	T	3
Juniperus virginiana	Red cedar	1	0.18	T	1
Betula lutea	Yellow birch	1	0.50	T	2
Vaccinium corymbosum	Highbush blueberry	2	0.82	S	2
Lonicera sp.	Honeysuckle	2	0.00	S	0
Viburnum recognitum	Northern arrowwood	3	0.82	S	1
Acer rubrum	Red maple	3	0.50	S	3
Ulmus americana	American elm	1	0.82	S	1
Rhus radicans	Poison ivy	50	0.82	S	2
Ilex verticillata	Winterberry	15	1.00	S	1
Spiraea latifolia	Meadowsweet	8	0.50	S	0
Alnus rugosa	Speckled alder	6	1.00	S	1
Rosa palustris	Marsh rose	1	1.00	S	1
Spiraea tomentosa	Steeplebush	1	0.50	S	0
Salix sp.	Willow	2	0.82	S	1
Cornus stolonifera	Red-osier dogwood	2	0.82	S	3
Vitis sp.	Grapevine	1		S	3
Rubus idaeus	Red raspberry	1	0.00	B	3
Osmunda cinnamomea	Cinnamon fern	4	0.82	H	0
Scirpus cyperinus	Woolgrass	2	1.00	H	3
Typha latifolia	Cattail	5	1.00	H	1
Onoclea sensibilis	Sensitive fern	15	1.00	H	0
Carex sp. (A)	A Sedge	8	1.00	H	3
Juncus effusus	Soft rush	2	1.00	H	0
Carex stricta	Tussock sedge	2	1.00	H	3
Sphagnum sp.	Sphagnum moss	1	1.00	H	0
Epilobium coloratum	Purple willowweed	1	1.00	H	1

WSI: 0.713 WFW: 0.440 BOG: 0.005 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.03 BUSHY: 0.17 COMPACT: 0.04
 MARSH SBCL: ROBUST: 0.02 BROADL: 0.10 NARROW: 0.08 FLOATING: 0.00
 SUBTYPES: CMNPRUVW

WATERSHED: Taylor River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

1 Biol	48.0	:*****:*	:
2 Hydro	56.5	:*****:	:
3 GrWat	30.1	:** :	:
4 Flood	61.7	:*****:	:
5 ShoLi	19.6	:*****:***	:

Benefit Score 1-R-A-N-K-10

6 WQual	49.0	:**** :	:
7 Econ	73.9	:*****:**	:
8 Recr	36.9	:*****:*	:
9 Aest	39.1	:*****:	:
10 Educ	53.9	:*****:**	:

AVERAGE DECILE OF TEN MODELS: 5.50

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA040 PLACE: (Photo 5-8) Mill Rd, HF

FL DATE : 05/29/86	GS&ABUN 20: SPHAGN10	Veg DENsity (HML) : M
GS&ABUN 1 : BETPOP 2	GS&ABUN 21: IRIVER 2	wetl JUXtapos(HML): M
GS&ABUN 2 : ACERUB35	GS&ABUN 22: OSMREG 4	w. level FLUCtu (Hi
GS&ABUN 3 : PINSTR 5	GS&ABUN 23: OSMCIN 5	Lo Vernal pool): L
GS&ABUN 4 : SALIX 1	GS&ABUN 24: RANUNC 1	Veg.Spec. Richness: H
GS&ABUN 5 : BETLUT 1	GS&ABUN 25: CAREX 3	
GS&ABUN 6 : CORSTO 2	GS&ABUN 26: EQUISE 2	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : ALNRUG 4	GS&ABUN 27: IMPCAP 5	WSI: 0.770
GS&ABUN 8 : sALIX 2	GS&ABUN 28: CALPAL 1	WFV: 0.390
GS&ABUN 9 : aCERUB 5	GS&ABUN 29: CARSTR 7	Perc. Wild. Food: M
GS&ABUN 10: fRAAME 1	GS&ABUN 30: ONOSEN15	NO. of species: 30
GS&ABUN 11: VIBREC 5	INVESTigator : HCS	Prime :
GS&ABUN 12: uLMAME 1	Dom Wetl Class (0-11): 7	Aesthetic: 0.101
GS&ABUN 13: RHURAD 3	SPec ELEM (ADEFHRSW):	Tot ABUN: 154
GS&ABUN 14: ILEVER20	CLaSs Richn (1-5) : 4	Conifer? N
GS&ABUN 15: RIBES 2	SubTYpe Richn (ABCDE): C	Trees : 0.286
GS&ABUN 16: LONICE 1	VEGeta Intersp (HML) : L	Shrubs: 0.357
GS&ABUN 17: VIBCAS 3	Surr. HABitat (123) : 2	Herbs : 0.357
GS&ABUN 18: pINSTR 2	Cover DISpers.(ABCDE): C	Bog : 0.065
GS&ABUN 19: CORAMO 4	Percent Open W (LMHV): L	SBTY : MNPRUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA040	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :L
Topo CONfig (CSVH) :S	FETch (LH or blank) :
Wetl SIZE (LMH) :M	DEPTH (SD or blank) :
Dom SOil type (int) : 33	HYdr CoN (None, Stream, River
Other SOil : 47	Lake or Combin. :S
Dom Surround Soil : 129	ACCeSs (Rd Wat Iso) :R
Other Surr. Soill : 510	POP'n density (LMH) :L
Other Surr. Soil2 : 46	loc SCARCity (LMH) :L
wetl GRAdient (LH) :H	CROP (N Hay Fam Com):N
Surr. SLope (LH) :H	LEGAL accs (pub priV
TOpo. POsit. (LMH) :H	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIParian conn (YN) :Y	
INLET1 (Abs Perrenial or Ephemeral :E	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :E	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :E	SurGeol Surround(ALOT):T THICKness (LMH):L
INL4 (APE) :E	HPOsition (Perch,W,A) :P GW Relat (DRC) :C
INL5 (APE) :E	TRAnsmissivity (LMH) :L
OUTLet1 (APE) :E	

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 5-8) Mill Rd, HF
TA040 Field Date: 05/29/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Betula populifolia	Grey birch	2	0.50	T	2
Acer rubrum	Red maple	35	0.50	T	3
Pinus strobus	White pine	5	0.18	T	3
Salix sp.	Willow	1	0.82	T	1
Betula lutea	Yellow birch	1	0.50	T	2
Cornus stolonifera	Red-osier dogwood	2	0.82	S	3
Alnus rugosa	Speckled alder	4	1.00	S	1
Salix sp.	Willow	2	0.82	S	1
Acer rubrum	Red maple	5	0.50	S	3
Fraxinus americana	White ash	1	0.50	S	1
Viburnum recognitum	Northern arrowwood	5	0.82	S	1
Ulmus americana	American elm	1	0.82	S	1
Rhus radicans	Poison ivy	3	0.82	S	2
Ilex verticillata	Winterberry	20	1.00	S	1
Ribes sp.	Gooseberry	2		S	1
Lonicera sp.	Honeysuckle	1	0.00	S	0
Viburnum cassinoides	Northern wild raisin	3	0.82	S	1
Pinus strobus	White pine	2	0.18	S	3
Cornus amomum	Silky dogwood	4	0.82	S	3
Sphagnum sp.	Sphagnum moss	10	1.00	H	0
Iris versicolor	Blue flag	2	1.00	H	0
Osmunda regalis	Royal fern	4	1.00	H	0
Osmunda cinnamomea	Cinnamon fern	5	0.82	H	0
Ranunculus sp.	Buttercup	1		H	0
Carex sp.	Sedge	3	1.00	H	3
Equisetum sp.	Horsetail	2		H	0
Impatiens capensis	Jewelweed	5	0.82	H	0
Caltha palustris	Marsh marigold	1	1.00	H	0
Carex stricta	Tussock sedge	7	1.00	H	3
Onoclea sensibilis	Sensitive fern	15	1.00	H	0

WSI: 0.769 WVF: 0.389 BOG: 0.064 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.07 BUSHY: 0.25 COMPACT: 0.01
 MARSH SBCL: ROBUST: 0.04 BROADL: 0.16 NARROW: 0.07 FLOATING: 0.00
 SUBTYPES: MNPRUW

WATERSHED: Taylor River TYPE: Wooded Swamp

RESULTS OF MODEL COMPUTATIONS

Benefit Score 1-R-A-N-K-10

1 Biol	48.8	:*****:*	:
2 Hydro	59.2	:*****:*	:
3 GrWat	33.9	:**** :	:
4 Flood	65.6	:*****:****	:
5 ShoLi	17.5	:*****:**	:

Benefit Score 1-R-A-N-K-10

6 WQual	50.0	:***** :	:
7 Econ	73.9	:*****:**	:
8 Recr	36.9	:*****:*	:
9 Aest	43.4	:*****:**	:
10 Educ	53.9	:*****:**	:

AVERAGE DECILE OF TEN MODELS: 6.10

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA045 PLACE: (Photo 4-10,5-10) Taylor River, NE of Rt88, HA HF
 FL DATE : 04/04/86 GS&ABUN 20: ONOSEN17 Veg DENSity (HML) : M
 GS&ABUN 1 : ACERUB20 GS&ABUN 21: SOLIDA 6 wetl JUXtapos(HML): H
 GS&ABUN 2 : PINSTR19 GS&ABUN 22: ASTER 7 w. level FLUCtu (Hi
 GS&ABUN 3 : ULMAME 3 GS&ABUN 23: SPHAGN 9 Lo Vernal pool): L
 GS&ABUN 4 : FRAAME 1 GS&ABUN 24: CAREX 11 Veg.Spec. Richness: H
 GS&ABUN 5 : RHUVER 2 GS&ABUN 25: JUNEFF 4
 GS&ABUN 6 : pINSTR 1 GS&ABUN 26: SYMFOE 1 ECOLOGICAL COMPUTATIONS:
 GS&ABUN 7 : aCERUB 5 GS&ABUN 27: POa 14 WSI: 0.751
 GS&ABUN 8 : ROSPAL 2 GS&ABUN 28: LYTSAL 2 WFV: 0.378
 GS&ABUN 9 : SPITOM 1 GS&ABUN 29: IRIVER 1 Perc. Wild. Food: M
 GS&ABUN 10: ALNRUG15 GS&ABUN 30: EUPMAC 1 NO. of species: 30
 GS&ABUN 11: VIBREC 9 INVESTigator : GS Prime : P
 GS&ABUN 12: ILEVER 5 Dom Wetl Class (0-11): 6 Aesthetic: 0.030
 GS&ABUN 13: SPILAT 9 SPec ELEM (ADEFHRSW) : Tot ABUN: 197
 GS&ABUN 14: VACCOR 6 CLaSS Richn (1-5) : 5 Conifer? N
 GS&ABUN 15: CORAMO 2 SubTYpe Richn (ABCDE): B Trees : 0.218
 GS&ABUN 16: RHURAD 9 VEGeta Intersp (HML) : H Shrubs: 0.348
 GS&ABUN 17: RUBHIS 5 Surr. HABitat (123) : 1 Herbs : 0.434
 GS&ABUN 18: CARSTR 8 Cover DISpers.(ABCDE): D Bog : 0.046
 GS&ABUN 19: TYPLAT 2 Percent Open W (LMHV): L SBTY : CMNPRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA
 Wet ID :TA045 OUTlet2 (APE) :
 2 letter TOWN codes*:HA HF % Bord OW (NLMH) :M
 Topo CONfig (CSVH) :S FETch (LH or blank) :L
 Wetl SIZe (LMH) :H DEPTH (SD or blank) :D
 Dom SOil type (int) : 33 HYdr CoN (None, Stream, River
 Other SOil : 197 Lake or Combin. :R
 Dom Surround Soil : 40 ACCeSS (Rd Wat Iso) :R
 Other Surr. Soi1 : 38 POP'n density (LMH) :L
 Other Surr. Soi2 : 510 loc SCARCity (LMH) :H
 wetl GRAdient (LH) :L CROP (N Hay Fam Com):N
 Surr. SLOpe (LH) :L LEGAL accs (puB priV
 TOpo. POsit. (LMH) :M or Restricted) :V
 Dom Hydr Condit(1-6):4
 RIParian conn (YN) :Y
 INLet1 (Abs Perrenial
 or Ephemeral :P CALCULATED FROM OTHER DATA AND SOIL:
 INL2 (APE) :P SurGeol Under wl(ALOT):L PERmeabil (LMH):L
 INL3 (APE) :P SurGeol Surround(ALOT):T THICKness (LMH):L
 INL4 (APE) :P HPOSITION (Perch,W,A) :P GW Relat (DRC) :C
 INL5 (APE) :E TRAnsmissivity (LMH) :L

* NC New Castle
 NH North Hampton

RY Rye HA Hampton
 HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 4-10,5-10) Taylor River, NE of Rt88, HA HF
 TA045 Field Date: 04/04/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	20	0.50	T	3
Pinus strobus	White pine	19	0.18	T	3
Ulmus americana	American elm	3	0.82	T	1
Fraxinus americana	White ash	1	0.50	T	1
Rhus vernix	Poison sumac	2	1.00	S	2
Pinus strobus	White pine	1	0.18	S	3
Acer rubrum	Red maple	5	0.50	S	3
Rosa palustris	Marsh rose	2	1.00	S	1
Spiraea tomentosa	Steeplebush	1	0.50	S	0
Alnus rugosa	Speckled alder	15	1.00	S	1
Viburnum recognitum	Northern arrowwood	9	0.82	S	1
Ilex verticillata	Winterberry	5	1.00	S	1
Spiraea latifolia	Meadowsweet	9	0.50	S	0
Vaccinium corymbosum	Highbush blueberry	6	0.82	S	2
Cornus amomum	Silky dogwood	2	0.82	S	3
Rhus radicans	Poison ivy	9	0.82	S	2
Rubus hispida	Trailing bramble	5	0.50	B	3
Carex stricta	Tussock sedge	8	1.00	H	3
Typha latifolia	Cattail	2	1.00	H	1
Onoclea sensibilis	Sensitive fern	17	1.00	H	0
Solidago sp.	Goldenrod	6		H	0
Aster sp.	Asters	7		H	0
Sphagnum sp.	Sphagnum moss	9	1.00	H	0
Carex sp.	Sedge	11	1.00	H	3
Juncus effusus	Soft rush	4	1.00	H	0
Symplocarpus foetidus	Skunk cabbage	1	1.00	H	0
Poaceae	Grasses	14		H	1
Lythrum salicaria	Purple loosestrife	2	1.00	H	0
Iris versicolor	Blue flag	1	1.00	H	0
Eupatorium maculatum	Spotted joe pye weed	1	0.82	H	0

WSI: 0.751 WVF: 0.378 BOG: 0.045 SALT: 0.000 DUNE: 0.000

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.04 BUSHY: 0.19 COMPACT: 0.05

MARSH SBCL: ROBUST: 0.02 BROADL: 0.09 NARROW: 0.19 FLOATING: 0.00

SUBTYPES: CMNPRUVW

WATERSHED: Taylor River

TYPE: Shrub Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

 1 Biol 77.5 :*****:*****:
 2 Hydro 76.3 :*****:*****:
 3 GrWat 54.7 :*****:***:
 4 Flood 68.6 :*****:*****:
 5 ShoLi 35.1 :*****:*****:

Benefit Score 1-R-A-N-K-10

 6 WQual 74.5 :*****:*****:
 7 Econ 73.9 :*****:**:
 8 Recr 53.4 :*****:*****:
 9 Aest 49.2 :*****:*****:
 10 Educ 76.1 :*****:*****:

AVERAGE DECILE OF TEN MODELS: 9.20

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA077 PLACE: (Photo 5-8) Taylor River, N of Drinkwater Rd, HF
 FL DATE : 04/08/86 GS&ABUN 20: Veg DENsity (HML) : M
 GS&ABUN 1 : ACERUB 5 GS&ABUN 21: wetl JUXtapos(HML): H
 GS&ABUN 2 : ULMAME 3 GS&ABUN 22: w. level FLUctu (Hi
 GS&ABUN 3 : SALNIG 3 GS&ABUN 23: Lo Vernal pool): L
 GS&ABUN 4 : sALIX 4 GS&ABUN 24: Veg.Spec. Richness: M
 GS&ABUN 5 : aCERUB 5 GS&ABUN 25:
 GS&ABUN 6 : CORSTO 4 GS&ABUN 26: ECOLOGICAL COMPUTATIONS:
 GS&ABUN 7 : ALNRUG15 GS&ABUN 27: WSI: 0.929
 GS&ABUN 8 : LONMOR 2 GS&ABUN 28: WFV: 0.430
 GS&ABUN 9 : TYPLAT30 GS&ABUN 29: Perc. Wild. Food: H
 GS&ABUN 10: CAREX 35 GS&ABUN 30: NO. of species: 13
 GS&ABUN 11: CARSTR10 INVESTigator : ASG Prime : P
 GS&ABUN 12: JUNEFF10 Dom Wetl Class (0-11): 3 Aesthetic: 0.000
 GS&ABUN 13: JUNCUS10 SPec ELem (ADEFHRSW): Tot ABUN: 136
 GS&ABUN 14: CLaSs Richn (1-5) : 5 Conifer? N
 GS&ABUN 15: SubTYpe Richn (ABCDE): B Trees : 0.081
 GS&ABUN 16: VEGeta Intersp (HML) : M Shrubs: 0.221
 GS&ABUN 17: Surr. HABitat (123) : 1 Herbs : 0.699
 GS&ABUN 18: Cover DISpers.(ABCDE): A Bog : 0.000
 GS&ABUN 19: Percent Open W (LMHV): L SBTY : NPRU

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA
 Wet ID :TA077 OUTlet2 (APE) :
 2 letter TOWN codes*:HF P% Bord OW (NLMH) :M
 Topo CONfig (CSVH) :S FETch (LH or blank) :
 Wetl SIze (LMH) :M DEPTH (SD or blank) :
 Dom SOil type (int) : 595 HYdr CoN (None, Stream, River
 Other SOil : 647 Lake or Combin. :R
 Dom Surround Soil : 32 ACCeSs (Rd Wat Iso) :R
 Other Surr. Soill : 29 POP'n density (LMH) :L
 Other Surr. Soil2 : loc SCARCity (LMH) :M
 wetl GRAdient (LH) :L CROP (N Hay Fam Com):N
 Surr. SLOpe (LH) :H LEGAL accs (puB priV
 TOpo. POsit. (LMH) :M or Restricted) :V
 Dom Hydr Condit(1-6):5
 RIPARIan conn (YN) :Y
 INLet1 (Abs Perrenial
 or Ephemeral :P CALCULATED FROM OTHER DATA AND SOIL:
 INL2 (APE) : SurGeol Under wl(ALOT):T PERmeabil (LMH):M
 INL3 (APE) : SurGeol Surround(ALOT):L THICKness (LMH):M
 INL4 (APE) : HPOsition (Perch,W,A) :W GW Relat (DRC) :C
 INL5 (APE) : TRAnsmissivity (LMH) :L
 OUTlet1 (APE) :P

* NC New Castle	RY Rye	HA Hampton
NH North Hampton	HF Hampton Falls	SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 5-8) Taylor River, N of Drinkwater Rd, HF
 TA077 Field Date: 04/08/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	5	0.50	T	3
Ulmus americana	American elm	3	0.82	T	1
Salix nigra	Black willow	3	1.00	T	1
Salix sp.	Willow	4	0.82	S	1
Acer rubrum	Red maple	5	0.50	S	3
Cornus stolonifera	Red-osier dogwood	4	0.82	S	3
Alnus rugosa	Speckled alder	15	1.00	S	1
Lonicera morrowi	Morrow's honeysuckle	2	0.00	S	1
Typha latifolia	Cattail	30	1.00	H	1
Carex sp.	Sedge	35	1.00	H	3
Carex stricta	Tussock sedge	10	1.00	H	3
Juncus effusus	Soft rush	10	1.00	H	0
Juncus sp.	Rush	10		H	0

WSI: 0.928 WVF: 0.430 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.06 BUSHY: 0.15 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.22 BROADL: 0.00 NARROW: 0.47 FLOATING: 0.00
 SUBTYPES:NPRU

WATERSHED: Taylor River TYPE: Shallow Fresh Marsh

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

1 Biol	82.9	:*****:*****:
2 Hydro	68.4	:*****:****:
3 GrWat	37.7	:**** :
4 Flood	57.8	:*** :
5 ShoLi	18.6	:*****:*** :

Benefit Score 1-R-A-N-K-10

6 WQual	62.7	:*****:*****:
7 Econ	65.2	:*****:
8 Recr	52.0	:*****:*****:
9 Aest	55.0	:*****:***:
10 Educ	71.4	:*****:*****:

AVERAGE DECILE OF TEN MODELS: 7.70

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA078 PLACE: (Photo 5-8) Taylor River, N of Drinkwater Rd, HF

FL DATE	: 04/08/86	GS&ABUN 20:	Veg DENSity (HML) :	M
GS&ABUN 1	: ACERUB 6	GS&ABUN 21:	wetl JUXtapos(HML):	H
GS&ABUN 2	: PINSTR 2	GS&ABUN 22:	w. level FLUctu (Hi	
GS&ABUN 3	: JUNVIR 1	GS&ABUN 23:	Lo Vernal pool):	L
GS&ABUN 4	: POPTRE 1	GS&ABUN 24:	Veg.Spec. Richness:	M
GS&ABUN 5	: SALNIG 2	GS&ABUN 25:		
GS&ABUN 6	: aCERUB 5	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:	
GS&ABUN 7	: LONMOR 1	GS&ABUN 27:	WSI:	0.934
GS&ABUN 8	: ALNRUG18	GS&ABUN 28:	WFV:	0.506
GS&ABUN 9	: CORAMO 2	GS&ABUN 29:	Perc. Wild. Food:	H
GS&ABUN 10	: VACCOR 2	GS&ABUN 30:	NO. of species:	18
GS&ABUN 11	: VIBREC 1	INvestigator : ASG	Prime :	P
GS&ABUN 12	: KALANG 1	Dom Wetl Class (0-11):	3 Aesthetic:	0.002
GS&ABUN 13	: pINSTR 2	SPec ELem (ADEFHRSW):	Tot ABUN:	210
GS&ABUN 14	: SALIX 5	CLaSs Richn (1-5) :	Conifer? N	
GS&ABUN 15	: CARSTR40	SubTYpe Richn (ABCDE): C	Trees :	0.057
GS&ABUN 16	: CAREX 50	VEGeta Intersp (HML) : H	Shrubs:	0.176
GS&ABUN 17	: TYPLAT70	Surr. HABitat (123) : 1	Herbs :	0.767
GS&ABUN 18	: LYTSAL 1	Cover DISpers.(ABCDE): A	Bog :	0.000
GS&ABUN 19:		Percent Open W (LMHV): L	SBTY :	NPRU

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID	: TA078	OUTlet2 (APE)	:
2 letter TOWN codes*:HF		P% Bord OW (NLMH)	:H
Topo CONFIG (CSVH)	: S	FETch (LH or blank)	:
Wetl SIZE (LMH)	: M	DEPTH (SD or blank)	:
Dom SOil type (int)	: 595	HYdr CoN (None, Stream, River	
Other SOil	: 33	Lake or Combin.	: S
Dom Surround Soil	: 32	ACCeSs (Rd Wat Iso)	: R
Other Surr. Soi1	: 66	POP'n density (LMH)	: L
Other Surr. Soi2	: 29	loc SCARCity (LMH)	: M
wetl GRAdient (LH)	: L	CROP (N Hay Fam Com)	: N
Surr. SLOpe (LH)	: H	LEGAL accs (puB priV	
TOpo. P0sit. (LMH)	: M	or Restricted)	: V
Dom Hydr Condit(1-6):5			
RIParian conn (YN)	: Y		
INLet1 (Abs Perrenial		CALCULATED FROM OTHER DATA AND SOIL:	
or Ephemeral	: P	SurGeol Under wl(ALOT):L	PERmeabil (LMH):M
INL2 (APE)	: E	SurGeol Surround(ALOT):L	THICKness (LMH):M
INL3 (APE)	: E	HPOsition (Perch,W,A) :W	GW Relat (DRC) :C
INL4 (APE)	: E	TRAnsmissivity (LMH) :L	
INL5 (APE)	: E		
OUTlet1 (APE)	: P		

* NC New Castle
 NH North Hampton

RY Rye
 HF Hampton Falls

HA Hampton
 SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 5-8) Taylor River, N of Drinkwater Rd, HF
 TA078 Field Date: 04/08/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	6	0.50	T	3
Pinus strobus	White pine	2	0.18	T	3
Juniperus virginiana	Red cedar	1	0.18	T	1
Populus tremuloides	Quaking aspen	1	0.00	T	2
Salix nigra	Black willow	2	1.00	T	1
Acer rubrum	Red maple	5	0.50	S	3
Lonicera morrowi	Morrow's honeysuckle	1	0.00	S	1
Alnus rugosa	Speckled alder	18	1.00	S	1
Cornus amomum	Silky dogwood	2	0.82	S	3
Vaccinium corymbosum	Highbush blueberry	2	0.82	S	2
Viburnum recognitum	Northern arrowwood	1	0.82	S	1
Kalmia angustifolia	Sheep laurel	1	0.50	S	0
Pinus strobus	White pine	2	0.18	S	3
Salix sp.	Willow	5	0.82	S	1
Carex stricta	Tussock sedge	40	1.00	H	3
Carex sp.	Sedge	50	1.00	H	3
Typha latifolia	Cattail	70	1.00	H	1
Lythrum salicaria	Purple loosestrife	1	1.00	H	0

WSI: 0.933 WFW: 0.505 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.05 BUSHY: 0.11 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.33 BROADL: 0.00 NARROW: 0.42 FLOATING: 0.00
 SUBTYPES:NPRU

WATERSHED: Taylor River TYPE: Shallow Fresh Marsh

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	86.0	:*****:*****:	6 WQual	70.5	:*****:*****:
2 Hydro	78.9	:*****:*****:	7 Econ	65.2	:*****: :
3 GrWat	56.6	:*****:*** :	8 Recr	43.8	:*****:*** :
4 Flood	63.7	:*****:** :	9 Aest	50.7	:*****:*** :
5 SholLi	37.9	:*****:*****:	10 Educ	66.6	:*****:*** :

AVERAGE DECILE OF TEN MODELS: 8.60

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA079 PLACE: (Photo 6-4) Between Drinkwater Rd & Cock Hill Rd, HF
 FL DATE : 04/03/86 GS&ABUN 20: Veg DENsity (HML) : M
 GS&ABUN 1 : FRAPEN 5 GS&ABUN 21: wetl JUXtapos(HML): H
 GS&ABUN 2 : PINSTR 6 GS&ABUN 22: w. level FLUCtu (Hi
 GS&ABUN 3 : ULMAME 5 GS&ABUN 23: Lo Vernal pool): L
 GS&ABUN 4 : ACERUB10 GS&ABUN 24: Veg.Spec. Richness: M
 GS&ABUN 5 : ALNRUG25 GS&ABUN 25:
 GS&ABUN 6 : sALIX 15 GS&ABUN 26: ECOLOGICAL COMPUTATIONS:
 GS&ABUN 7 : ILEVER 3 GS&ABUN 27: WSI: 0.768
 GS&ABUN 8 : aCERUB 5 GS&ABUN 28: WFV: 0.401
 GS&ABUN 9 : LONMOR 3 GS&ABUN 29: Perc. Wild. Food: H
 GS&ABUN 10: TYPLAT 4 GS&ABUN 30: NO. of species: 11
 GS&ABUN 11: CAREX 5 INVestigator : ASG Prime : P
 GS&ABUN 12: Dom Wetl Class (0-11): 6 Aesthetic: 0.017
 GS&ABUN 13: SPec ELEM (ADEFHRSW): Tot ABUN: 86
 GS&ABUN 14: CLaSs Richn (1-5) : 5 Conifer? N
 GS&ABUN 15: SubTYpe Richn (ABCDE): C Trees : 0.302
 GS&ABUN 16: VEGeta Intersp (HML) : M Shrubs: 0.593
 GS&ABUN 17: Surr. HABitat (123) : 1 Herbs : 0.105
 GS&ABUN 18: Cover DISpers.(ABCDE): A Bog : 0.000
 GS&ABUN 19: Percent Open W (LMHV): L SBTY : NPRU

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA
 Wet ID :TA079 OUTlet2 (APE) :
 2 letter TOWN codes*:HF P% Bord OW (NLMH) :M
 Topo CONfig (CSVH) :S FETch (LH or blank) :
 Wetl SIze (LMH) :M DEPTH (SD or blank) :
 Dom SOil type (int) : 595 HYdr CoN (None, Stream, River
 Other SOil : 647 Lake or Combin. :R
 Dom Surround Soil : 32 ACCeSS (Rd Wat Iso) :R
 Other Surr. Soi1 : 29 POP'n density (LMH) :L
 Other Surr. Soi2 : 67 loc SCARCity (LMH) :M
 wetl GRAdient (LH) :L CROP (N Hay Fam Com):N
 Surr. SLOpe (LH) :H LEGAL accs (puB priV
 TOpo. POsit. (LMH) :M or Restricted) :V
 Dom Hydr Condit(1-6):5
 RIPARIan conn (YN) :Y
 INLet1 (Abs Perrenial
 or Ephemeral :P CALCULATED FROM OTHER DATA AND SOIL:
 INL2 (APE) :E SurGeol Under wl(ALOT):T PERMeabil (LMH):M
 INL3 (APE) : SurGeol Surround(ALOT):L THICKness (LMH):M
 INL4 (APE) : HPOSiition (Perch,W,A) :W GW Relat (DRC) :C
 INL5 (APE) : TRAnsmissivity (LMH) :L
 OUTlet1 (APE) :P

* NC New Castle RY Rye HA Hampton
 NH North Hampton HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 6-4) Between Drinkwater Rd & Cock Hill Rd, HF
 TA079 Field Date: 04/03/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetland Freq	Type	Food Value
<i>Fraxinus p. subintegerrima</i>	Green ash	5	0.82	T	1
<i>Pinus strobus</i>	White pine	6	0.18	T	3
<i>Ulmus americana</i>	American elm	5	0.82	T	1
<i>Acer rubrum</i>	Red maple	10	0.50	T	3
<i>Alnus rugosa</i>	Speckled alder	25	1.00	S	1
<i>Salix sp.</i>	Willow	15	0.82	S	1
<i>Ilex verticillata</i>	Winterberry	3	1.00	S	1
<i>Acer rubrum</i>	Red maple	5	0.50	S	3
<i>Lonicera morrowi</i>	Morrow's honeysuckle	3	0.00	S	1
<i>Typha latifolia</i>	Cattail	4	1.00	H	1
<i>Carex sp.</i>	Sedge	5	1.00	H	3

WSI: 0.768 WVF: 0.401 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.23 BUSHY: 0.36 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.04 BROADL: 0.00 NARROW: 0.05 FLOATING: 0.00
 SUBTYPES:NPRU

WATERSHED: Taylor River TYPE: Shrub Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

 1 Biol 76.7 :*****:*****:
 2 Hydro 69.7 :*****:****:
 3 GrWat 39.6 :**** : :
 4 Flood 60.7 :**** : :
 5 SholLi 31.0 :*****:****:

Benefit Score 1-R-A-N-K-10

 6 WQual 64.7 :*****:*****:
 7 Econ 56.5 :**** : :
 8 Recr 42.4 :*****:***:
 9 Aest 40.5 :*****:***:
 10 Educ 58.7 :*****:****:

AVERAGE DECILE OF TEN MODELS: 7.10

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA080 PLACE: (Photo 6-4) Taylor River, E of Kings Rd, HF

FL DATE : 04/04/86	GS&ABUN 20:	Veg DENSity (HML) : M
GS&ABUN 1 : PINSTR10	GS&ABUN 21:	wetl JUXtapos(HML): H
GS&ABUN 2 : ACERUB25	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : SALIX 13	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : ULMAME10	GS&ABUN 24:	Veg.Spec. Richness: M
GS&ABUN 5 : ALNRUG20	GS&ABUN 25:	
GS&ABUN 6 : sALIX 15	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : CORAM010	GS&ABUN 27:	WSI: 0.774
GS&ABUN 8 : VIBCAS10	GS&ABUN 28:	WFV: 0.448
GS&ABUN 9 : RHURAD 5	GS&ABUN 29:	Perc. Wild. Food: H
GS&ABUN 10: VIBREC10	GS&ABUN 30:	NO. of species: 13
GS&ABUN 11: TYPLAT10	INVESTigator : ASG	Prime : P
GS&ABUN 12: CAREX 6	Dom Wetl Class (0-11): 6	Aesthetic: 0.000
GS&ABUN 13: CARSTR 6	SPec ELEM (ADEFHRSW):	Tot ABUN: 150
GS&ABUN 14:	CLaSS Richn (1-5) : 4	Conifer? N
GS&ABUN 15:	SubTYpe Richn (ABCDE): C	Trees : 0.387
GS&ABUN 16:	VEGeta Intersp (HML) : M	Shrubs : 0.467
GS&ABUN 17:	Surr. HABitat (123) : 1	Herbs : 0.147
GS&ABUN 18:	Cover DISpers.(ABCDE): C	Bog : 0.000
GS&ABUN 19:	Percent Open W (LMHV): L	SBTY : NPRUV

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA080	OUTlet2 (APE) :	
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :L	
Topo CONfig (CSVH) :S	FETch (LH or blank) :	
Wetl SIZE (LMH) :M	DEPTH (SD or blank) :	
Dom SOil type (int) : 134	HYdr CoN (None, Stream, River	
Other SOil : 595	Lake or Combin. :R	
Dom Surround Soil : 43	ACCeSs (Rd Wat Iso) :R	
Other Surr. Soi1 : 32	POP'n density (LMH) :L	
Other Surr. Soi2 : 29	loc SCARCity (LMH) :L	
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N	
Surr. SLOpe (LH) :L	LEGAL accs (puB priV	
TOpo. POsit. (LMH) :M	or Restricted) :V	
Dom Hydr Condit(1-6):5		
RIPARIan conn (YN) :Y		
INLet1 (Abs Perrenial or Ephemeral :P	CALCULATED FROM OTHER DATA AND SOIL:	
INL2 (APE) :	SurGeol Under wl(ALOT):L	PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):T	THICKness (LMH):L
INL4 (APE) :	HPOsition (Perch,W,A) :W	GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L	
OUTlet1 (APE) :P		

* NC New Castle RY Rye HA Hampton
NH North Hampton HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 6-4) Taylor River, E of Kings Rd, HF
 TA080 Field Date: 04/04/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Pinus strobus	White pine	10	0.18	T	3
Acer rubrum	Red maple	25	0.50	T	3
Salix sp.	Willow	13	0.82	T	1
Ulmus americana	American elm	10	0.82	T	1
Alnus rugosa	Speckled alder	20	1.00	S	1
Salix sp.	Willow	15	0.82	S	1
Cornus amomum	Silky dogwood	10	0.82	S	3
Viburnum cassinoides	Northern wild raisin	10	0.82	S	1
Rhus radicans	Poison ivy	5	0.82	S	2
Viburnum recognitum	Northern arrowwood	10	0.82	S	1
Typha latifolia	Cattail	10	1.00	H	1
Carex sp.	Sedge	6	1.00	H	3
Carex stricta	Tussock sedge	6	1.00	H	3

WSI: 0.774 WVF: 0.448 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.10 BUSHY: 0.33 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.06 BROADL: 0.00 NARROW: 0.08 FLOATING: 0.00
 SUBTYPES:NPRUV

WATERSHED: Taylor River TYPE: Shrub Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

1 Biol	68.9	:*****:*****:
2 Hydro	63.1	:*****:*** :
3 GrWat	54.7	:*****:*** :
4 Flood	62.7	:*****:*** :
5 ShoLi	17.5	:*****:*** :

Benefit Score 1-R-A-N-K-10

6 WQual	60.7	:*****:*** :
7 Econ	56.5	:***** :
8 Recr	42.4	:*****:*** :
9 Aest	31.8	:** :
10 Educ	53.9	:*****:*** :

AVERAGE DECILE OF TEN MODELS: 6.70

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA082 PLACE: (Photo 5-8) New Rd, N of Drinkwater Rd, HF

FL DATE : 04/03/86	GS&ABUN 20:	Veg DENSity (HML) : M
GS&ABUN 1 : ACERUB40	GS&ABUN 21:	wetl JUXtapos(HML): M
GS&ABUN 2 : ULMAME12	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : PINSTR 5	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : BETLUT 2	GS&ABUN 24:	Veg.Spec. Richness: M
GS&ABUN 5 : ALNRUG18	GS&ABUN 25:	
GS&ABUN 6 : LONMOR 1	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : aCERUB15	GS&ABUN 27:	WSI: 0.630
GS&ABUN 8 : ROSPAL 3	GS&ABUN 28:	WFV: 0.464
GS&ABUN 9 : CORAMO10	GS&ABUN 29:	Perc. Wild. Food: H
GS&ABUN 10: sALIX 8	GS&ABUN 30:	NO. of species: 18
GS&ABUN 11: SPILAT 5	INVESTigator : ASG	Prime :
GS&ABUN 12: pINSTR 2	Dom Wetl Class (0-11): 7	Aesthetic: 0.010
GS&ABUN 13: VIBREC 1	SPec ELEM (ADEFHRSW):	Tot ABUN: 147
GS&ABUN 14: ROSMUL10	CLaSS Richn (1-5) : 4	Conifer? N
GS&ABUN 15: SOLIDA 3	SubTYpe Richn (ABCDE): C	Trees : 0.401
GS&ABUN 16: ONOSEN 7	VEGeta Intersp (HML) : M	Shrubs: 0.497
GS&ABUN 17: CALCAN 4	Surr. HABitat (123) : 2	Herbs : 0.102
GS&ABUN 18: JUNEFF 1	Cover DISpers.(ABCDE): D	Bog : 0.000
GS&ABUN 19:	Percent Open W (LMHV): L	SBTY : CNPUWW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA082	OUTlet2 (APE) :	
2 letter TOWN codes*:HF	% Bord OW (NLMH) :	N
Topo CONfig (CSVH) :S	FETch (LH or blank) :	
Wetl SIZE (LMH) :M	DEPTH (SD or blank) :	
Dom SOil type (int) : 538	HYdr CoN (None, Stream, River	
Other SOil : 510	Lake or Combin. :S	
Dom Surround Soil : 40	ACCeSS (Rd Wat Iso) :R	
Other Surr. Soi1 : 32	POP'n density (LMH) :L	
Other Surr.. Soi2 : 43	loc SCARCity (LMH) :L	
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N	
Surr. SLOpe (LH) :L	LEGAL accs (puB priV	
TOpo. POsit. (LMH) :H	or Restricted) :V	
Dom Hydr Condit(1-6):5		
RIParian conn (YN) :Y		
INLet1 (Abs Perrenial or Ephemeral :E	CALCULATED FROM OTHER DATA AND SOIL:	
INL2 (APE) :	SurGeol Under w1(ALOT):L	PERmeabil (LMH):L
INL3 (APE) :	SurGeol Surround(ALOT):T	THICKness (LMH):L
INL4 (APE) :	HPOsition (Perch,W,A) :P	GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH) :L	
OUTlet1 (APE) :P		

* NC New Castle
 NH North Hampton

RY Rye
 HF Hampton Falls

HA Hampton
 SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 5-8) New Rd, N of Drinkwater Rd, HF
 TA082 Field Date: 04/03/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	40	0.50	T	3
Ulmus americana	American elm	12	0.82	T	1
Pinus strobus	White pine	5	0.18	T	3
Betula lutea	Yellow birch	2	0.50	T	.2
Alnus rugosa	Speckled alder	18	1.00	S	1
Lonicera morrowi	Morrow's honeysuckle	1	0.00	S	1
Acer rubrum	Red maple	15	0.50	S	3
Rosa palustris	Marsh rose	3	1.00	S	1
Cornus amomum	Silky dogwood	10	0.82	S	3
Salix sp.	Willow	8	0.82	S	1
Spiraea latifolia	Meadowsweet	5	0.50	S	0
Pinus strobus	White pine	2	0.18	S	3
Viburnum recognitum	Northern arrowwood	1	0.82	S	1
Rosa multiflora	Multiflora rose	10	0.00	S	1
Solidago sp.	Goldenrod	3		H	0
Onoclea sensibilis	Sensitive fern	7	1.00	H	0
Calamagrostis canadensis	Bluejoint grass	4	1.00	H	0
Juncus effusus	Soft rush	1	1.00	H	0

WSI: 0.629 WVF: 0.464 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.17 BUSHY: 0.22 COMPACT: 0.03
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.04 NARROW: 0.03 FLOATING: 0.00
 SUBTYPES: CNPUUV

WATERSHED: Taylor River TYPE: Wooded Swamp

RESULTS OF MODEL COMPUTATIONS

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	44.9	:*****:	6 WQual	49.0	:**** :
2 Hydro	56.5	:*****:	7 Econ	73.9	:*****;** :
3 GrWat	33.9	:*** :	8 Recr	36.9	:*****;* :
4 Flood	62.7	:*****;*	9 Aest	39.1	:*****; :
5 ShoLi	0.00	:** :	10 Educ	46.0	:*****;* :

AVERAGE DECILE OF TEN MODELS: 4.90

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA084 PLACE: (Photo 5-6) Taylor River, HF Town Forest, HF

FL DATE	: 04/03/86	GS&ABUN 20:	CAREX 6	Veg DENsity (HML) :	M
GS&ABUN 1	: POPTRE 3	GS&ABUN 21:	ONOSEN15	wetl JUXtapos(HML):	H
GS&ABUN 2	: ACERUB25	GS&ABUN 22:		w. level FLUCtu (Hi	
GS&ABUN 3	: BETLUT 1	GS&ABUN 23:		Lo Vernal pool):	L
GS&ABUN 4	: ULMAME12	GS&ABUN 24:		Veg.Spec. Richness:	H
GS&ABUN 5	: PINSTR 2	GS&ABUN 25:			
GS&ABUN 6	: ALNRUG25	GS&ABUN 26:		ECOLOGICAL COMPUTATIONS:	
GS&ABUN 7	: aCERUB15	GS&ABUN 27:		WSI:	0.828
GS&ABUN 8	: VIBREC10	GS&ABUN 28:		WFV:	0.345
GS&ABUN 9	: CORAMO 2	GS&ABUN 29:		Perc. Wild. Food:	M
GS&ABUN 10	: tSUCAN 1	GS&ABUN 30:		NO. of species:	21
GS&ABUN 11	: RHURAD 5	INVESTigator	: ASG	Prime :	P
GS&ABUN 12	: SPILAT10	Dom Wetl Class (0-11):	6	Aesthetic:	0.002
GS&ABUN 13	: pINSTR 1	SPec ELEM (ADEFHRSW):		Tot ABUN:	216
GS&ABUN 14	: SPHAGN30	CLaSS Richn (1-5)	: 5	Conifer?	N
GS&ABUN 15	: TYPLAT34	SubTYpe Richn (ABCDE):	C	Trees :	0.199
GS&ABUN 16	: COPGRO 2	VEGeta Intersp (HML):	H	Shrubs:	0.319
GS&ABUN 17	: LYTSAL 1	Surr. HABitat (123):	1	Herbs :	0.481
GS&ABUN 18	: ASTER 1	Cover DISpers.(ABCDE):	B	Bog :	0.139
GS&ABUN 19	: CARSTR15	Percent Open W (LMHV):	L	SBTY :	CMNPRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID	: TA084	OUTlet2 (APE)	:
2 letter TOWN codes*:HF		P% Bord OW (NLMH)	:L
Topo CONfig (CSVH)	: S	FETch (LH or blank)	:L
Wetl SIZE (LMH)	: H	DEPTH (SD or blank)	:S
Dom SOil type (int)	: 33	HYdr CoN (None, Stream, River	
Other SOil	: 134	Lake or Combin.	:S
Dom Surround Soil	: 32	ACCeSS (Rd Wat Iso)	:R
Other Surr. Soill	: 40	POP'n density (LMH)	:L
Other Surr. Soil2	: 38	loc SCARCity (LMH)	:M
wetl GRAdient (LH)	: L	CROP (N Hay Fam Com):N	
Surr. SLOpe (LH)	: H	LEGAL accs (puB priV	
TOpo. P0sit. (LMH)	: M	or Restricted)	:V
Dom Hydr Condit(1-6):5			
RIParian conn (YN)	: Y		
INLet1 (Abs Perrenial or Ephemeral	: P	CALCULATED FROM OTHER DATA AND SOIL:	
INL2 (APE)	: P	SurGeol Under wl(ALOT):L	PERmeabil (LMH):L
INL3 (APE)	: P	SurGeol Surround(ALOT):L	THICKness (LMH):L
INL4 (APE)	: P	HPOsition (Perch,W,A)	:P GW Relat (DRC) :C
INL5 (APE)	: P	TRANsmissivity (LMH)	:L
OUTlet1 (APE)	: P		

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 5-6) Taylor River, HF Town Forest, HF
 TA084 Field Date: 04/03/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
<i>Populus tremuloides</i>	Quaking aspen	3	0.00	T	2
<i>Acer rubrum</i>	Red maple	25	0.50	T	3
<i>Betula lutea</i>	Yellow birch	1	0.50	T	2
<i>Ulmus americana</i>	American elm	12	0.82	T	1
<i>Pinus strobus</i>	White pine	2	0.18	T	3
<i>Alnus rugosa</i>	Speckled alder	25	1.00	S	1
<i>Acer rubrum</i>	Red maple	15	0.50	S	3
<i>Viburnum recognitum</i>	Northern arrowwood	10	0.82	S	1
<i>Cornus amomum</i>	Silky dogwood	2	0.82	S	3
<i>Tsuga canadensis</i>	Hemlock	1	0.50	S	1
<i>Rhus radicans</i>	Poison ivy	5	0.82	S	2
<i>Spiraea latifolia</i>	Meadowsweet	10	0.50	S	0
<i>Pinus strobus</i>	White pine	1	0.18	S	3
<i>Sphagnum sp.</i>	Sphagnum moss	30	1.00	H	0
<i>Typha latifolia</i>	Cattail	34	1.00	H	1
<i>Coptis groenlandica</i>	Goldthread	2	0.82	H	0
<i>Lythrum salicaria</i>	Purple loosestrife	1	1.00	H	0
<i>Aster sp.</i>	Asters	1		H	0
<i>Carex stricta</i>	Tussock sedge	15	1.00	H	3
<i>Carex sp.</i>	Sedge	6	1.00	H	3
<i>Onoclea sensibilis</i>	Sensitive fern	15	1.00	H	0

WSI: 0.827 WVF: 0.344 BOG: 0.138 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.07 BUSHY: 0.17 COMPACT: 0.04
 MARSH SBCL: ROBUST: 0.16 BROADL: 0.07 NARROW: 0.09 FLOATING: 0.00
 SUBTYPES: CMNPRUVW

WATERSHED: Taylor River TYPE: Shrub Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

1 Biol	72.8	:*****:*****:
2 Hydro	73.6	:*****:****:
3 GrWat	49.0	:*****:*
4 Flood	68.6	:*****:****:
5 ShoLi	17.5	:*****:** :

Benefit Score 1-R-A-N-K-10

6 WQual	72.5	:*****:*****:
7 Econ	73.9	:*****:** :
8 Recr	45.2	:*****:****:
9 Aest	36.2	:*****: :
10 Educ	66.6	:*****:**** :

AVERAGE DECILE OF TEN MODELS: 8.10

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA085 PLACE: (Photo 5-6) New Rd, S of Drinkwater Rd, HF
 FL DATE : 04/03/86 GS&ABUN 20: Veg DENSity (HML) : M
 GS&ABUN 1 : ACERUB10 GS&ABUN 21: wetl JUXtapos(HML): M
 GS&ABUN 2 : PINSTR 1 GS&ABUN 22: w. level FLUCtu (Hi
 GS&ABUN 3 : JUNVIR 1 GS&ABUN 23: Lo Vernal pool): L
 GS&ABUN 4 : ALNRUG40 GS&ABUN 24: Veg.Spec. Richness: M
 GS&ABUN 5 : CORAMO 1 GS&ABUN 25:
 GS&ABUN 6 : MYRPEN 2 GS&ABUN 26: ECOLOGICAL COMPUTATIONS:
 GS&ABUN 7 : VIBREC 1 GS&ABUN 27: WSI: 0.854
 GS&ABUN 8 : pINSTR 1 GS&ABUN 28: WFV: 0.252
 GS&ABUN 9 : SPILAT10 GS&ABUN 29: Perc. Wild. Food: M
 GS&ABUN 10: ROSPAL15 GS&ABUN 30: NO. of species: 18
 GS&ABUN 11: SAMCAN 1 INVESTigator : ASG Prime : P
 GS&ABUN 12: SPITOM 2 Dom Wetl Class (0-11): 6 Aesthetic: 0.077
 GS&ABUN 13: ILEVER 2 SPec ELem (ADEFHRSW): Tot ABUN: 111
 GS&ABUN 14: sALIX 3 CLaSs Richn (1-5) : 5 Conifer? N
 GS&ABUN 15: RHUVER 1 SubTYpe Richn (ABCDE): B Trees : 0.108
 GS&ABUN 16: TYPLAT 2 VEGeta Intersp (HML) : M Shrubs: 0.712
 GS&ABUN 17: ONOSEN16 Surr. HABitat (123) : 1 Herbs : 0.180
 GS&ABUN 18: TYPLAT 2 Cover DISpers.(ABCDE): D Bog : 0.000
 GS&ABUN 19: Percent Open W (LMHV): L SBTY : CPRUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA
 Wet ID :TA085 OUTlet2 (APE) :
 2 letter TOWN codes*:HF P% Bord OW (NLMH) :L
 Topo CONfig (CSVH) :S FETch (LH or blank) :
 Wetl SIze (LMH) :M DEPTH (SD or blank) :
 Dom Soil type (int) : 33 HYdr CoN (None, Stream, River
 Other Soil : 134 Lake or Combin. :N
 Dom Surround Soil : 32 ACCeSs (Rd Wat Iso) :R
 Other Surr. Soil1 : 47 POP'n density (LMH) :L
 Other Surr. Soil2 : loc SCARCity (LMH) :L
 wetl GRAdient (LH) :L CROP (N Hay Fam Com):N
 Surr. SLOpe (LH) :L LEGAL accs (puB priV
 TOpo. POsit. (LMH) :H or Restricted) :V
 Dom Hydr Condit(1-6):6
 RIPARIan conn (YN) :N
 INLet1 (Abs Perrenial
 or Ephemeral :A CALCULATED FROM OTHER DATA AND SOIL:
 INL2 (APE) : SurGeol Under wl(ALOT):L PERmeabil (LMH):L
 INL3 (APE) : SurGeol Surround(ALOT):L THICKness (LMH):L
 INL4 (APE) : HPOsition (Perch,W,A) :P GW Relat (DRC) :C
 INL5 (APE) : TRAnsmissivity (LMH) :L
 OUTlet1 (APE) :P

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 5-6) New Rd, S of Drinkwater Rd, HF
 TA085 Field Date: 04/03/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	10	0.50	T	3
Pinus strobus	White pine	1	0.18	T	3
Juniperus virginiana	Red cedar	1	0.18	T	1
Alnus rugosa	Speckled alder	40	1.00	S	1
Cornus amomum	Silky dogwood	1	0.82	S	3
Myrica pensylvanica	Bayberry	2	0.50	S	2
Viburnum recognitum	Northern arrowwood	1	0.82	S	1
Pinus strobus	White pine	1	0.18	S	3
Spiraea latifolia	Meadowsweet	10	0.50	S	0
Rosa palustris	Marsh rose	15	1.00	S	1
Sambucus canadensis	Elderberry	1	0.18	S	1
Spiraea tomentosa	Steeplebush	2	0.50	S	0
Ilex verticillata	Winterberry	2	1.00	S	1
Salix sp.	Willow	3	0.82	S	1
Rhus vernix	Poison sumac	1	1.00	S	2
Typha latifolia	Cattail	2	1.00	H	1
Onoclea sensibilis	Sensitive fern	16	1.00	H	0
Typha latifolia	Cattail	2	1.00	H	1

WSI: 0.854 WVF: 0.252 BOG: 0.000 SALT: 0.000 DUNE: 0.018
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.04 BUSHY: 0.54 COMPACT: 0.12
 MARSH SBCL: ROBUST: 0.03 BROADL: 0.14 NARROW: 0.00 FLOATING: 0.00
 SUBTYPES:CPRUW

WATERSHED: Taylor River TYPE: Shrub Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10
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1 Biol	62.0	:*****:**** :
2 Hydro	27.6	:** : : :
3 GrWat	32.0	:** : : :
4 Flood	62.7	:*****:** :
5 ShoLi	17.5	:*****:** :

AVERAGE DECILE OF TEN MODELS: 5.40

Benefit	Score	1-R-A-N-K-10
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6 WQual	56.8	:*****:** :
7 Econ	56.5	:**** :
8 Recr	31.5	:**** :
9 Aest	40.5	:*****:*
10 Educ	58.7	:*****:*** :

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA088 PLACE: (Photo 5-6) S of Lamprey Rd, HF

FL DATE	: 06/30/86	GS&ABUN 20:	SOLIDA 5	Veg DENSity (HML)	: H
GS&ABUN 1	: ACERUB15	GS&ABUN 21:	LYSTER 6	wetl JUXtapos(HML)	: H
GS&ABUN 2	: PINSTR 4	GS&ABUN 22:	JUNEFF 4	w. level FLUctu (Hi	
GS&ABUN 3	: TSUCAN 2	GS&ABUN 23:	GLYSTR 3	Lo Vernal pool):	L
GS&ABUN 4	: ULMAME 2	GS&ABUN 24:	CARSTR 2	Veg.Spec. Richness:	H
GS&ABUN 5	: SALIX 1	GS&ABUN 25:	SOLIDA 2		
GS&ABUN 6	: uLMAME 2	GS&ABUN 26:	OSMCIN 2	ECOLOGICAL COMPUTATIONS:	
GS&ABUN 7	: tSUCAN 3	GS&ABUN 27:	TYPLAT 2	WSI:	0.796
GS&ABUN 8	: ALNRUG22	GS&ABUN 28:	MAICAN 3	WFV:	0.232
GS&ABUN 9	: RHAFRA 2	GS&ABUN 29:	POa 40	Perc. Wild. Food:	M
GS&ABUN 10:	RHURAD 4	GS&ABUN 30:		NO. of species:	29
GS&ABUN 11:	SPILAT11	INVESTigator	: GS	Prime :	P
GS&ABUN 12:	ROSPAL 8	Dom Wetl Class (0-11):	6	Aesthetic:	0.093
GS&ABUN 13:	VIBREC 6	SPec ELem (ADEFHRSW):		Tot ABUN:	220
GS&ABUN 14:	ONOSEN12	CLaSS Richn (1-5)	: 4	Conifer?	N
GS&ABUN 15:	CAREX 14	SubTYpe Richn (ABCDE):	C	Trees :	0.109
GS&ABUN 16:	EQUFLU 2	VEGeta Intersp (HML)	: M	Shrubs:	0.264
GS&ABUN 17:	EQUARV 6	Surr. HABitat (123)	: 2	Herbs :	0.627
GS&ABUN 18:	IMPCAP30	Cover DISpers.(ABCDE):	D	Bog :	0.000
GS&ABUN 19:	ASTER 5	Percent Open W (LMHV):	L	SBTY :	CNPRUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID	: TA088	OUTlet2 (APE)	:
2 letter TOWN codes*:HF		P% Bord OW (NLMH)	:L
Topo Config (CSVH)	: S	FETch (LH or blank)	:
Wetl SIZE (LMH)	: M	DEPTH (SD or blank)	:
Dom Soil type (int)	: 134	HYdr CoN (None, Stream, River	
Other Soil	: 33	Lake or Combin.	: S
Dom Surround Soil	: 32	ACCeSs (Rd Wat Iso)	: R
Other Surr. Soi1	: 38	POP'n density (LMH)	: L
Other Surr. Soi2	: 37	loc SCARCity (LMH)	: M
wetl GRAdient (LH)	: L	CROP (N Hay Fam Com)	: N
Surr. SLOpe (LH)	: H	LEGAL accs (puB priV	
TOpo. POSit. (LMH)	: H	or Restricted)	: V
Dom Hydr Condit(1-6):4			
RIPARIan conn (YN)	: Y		
INLet1 (Abs Perrenial		CALCULATED FROM OTHER DATA AND SOIL:	
or Ephemeral	: E	SurGeol Under wl(ALOT):L	PERmeabil (LMH):L
INL2 (APE)	: E	SurGeol Surround(ALOT):L	THICKness (LMH):L
INL3 (APE)	:	HPOsition (Perch,W,A)	: W GW Relat (DRC) :C
INL4 (APE)	:	TRANsmissivity (LMH)	: L
INL5 (APE)	:		
OUTlet1 (APE)	: P		

* NC New Castle
 NH North Hampton

RY Rye
 HF Hampton Falls

HA Hampton
 SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 5-6) S of Lamprey Rd, HF
TA088 Field Date: 06/30/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	15	0.50	T	3
Pinus strobus	White pine	4	0.18	T	3
Tsuga canadensis	Hemlock	2	0.50	T	1
Ulmus americana	American elm	2	0.82	T	1
Salix sp.	Willow	1	0.82	T	1
Ulmus americana	American elm	2	0.82	S	1
Tsuga canadensis	Hemlock	3	0.50	S	1
Alnus rugosa	Speckled alder	22	1.00	S	1
Rhamnus frangula	Europ. buckthorn	2	0.50	S	0
Rhus radicans	Poison ivy	4	0.82	S	2
Spiraea latifolia	Meadowsweet	11	0.50	S	0
Rosa palustris	Marsh rose	8	1.00	S	1
Viburnum recognitum	Northern arrowwood	6	0.82	S	1
Onoclea sensibilis	Sensitive fern	12	1.00	H	0
Carex sp.	Sedge	14	1.00	H	3
Equisetum fluviatile	River horsetail	2	1.00	H	0
Equisetum arvense	Common horsetail	6	0.50	H	0
Impatiens capensis	Jewelweed	30	0.82	H	0
Aster sp.	Asters	5		H	0
Solidago sp.	Goldenrod	5		H	0
Lysimachia terrestris	Swamp candles	6	1.00	H	0
Juncus effusus	Soft rush	4	1.00	H	0
Glyceria striata	Fowl-meadow grass	3	1.00	H	1
Carex stricta	Tussock sedge	2	1.00	H	3
Solidago sp.	Goldenrod	2		H	0
Osmunda cinnamomea	Cinnamon fern	2	0.82	H	0
Typha latifolia	Cattail	2	1.00	H	1
Maianthemum canadense	Canada mayflower	3	0.00	H	0
Poaceae	Grasses	40		H	1

WSI: 0.796 WVF: 0.231 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.02 BUSHY: 0.17 COMPACT: 0.05
 MARSH SBCL: ROBUST: 0.14 BROADL: 0.06 NARROW: 0.35 FLOATING: 0.00
 SUBTYPES: CNPRUW

WATERSHED: Taylor River TYPE: Shrub Swamp

RESULTS OF MODEL COMPUTATIONS

Benefit	Score	1-R-A-N-K-10
1 Biol	65.1	:*****;*** :
2 Hydro	56.5	:*****; :
3 GrWat	54.7	:*****;*** :
4 Flood	62.7	:*****;* :
5 ShoLi	19.6	:*****;*** :

AVERAGE DECILE OF TEN MODELS: 6.70

Benefit	Score	1-R-A-N-K-10
6 WQual	57.8	:*****;** :
7 Econ	56.5	:***** ;
8 Recr	34.2	:*****; :
9 Aest	40.5	:*****;* :
10 Educ	66.6	:*****;**** :

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA090 PLACE: (Photo 6-4) N of Drinkwater Rd, W of Kings Rd, HF

FL DATE : 04/25/86	GS&ABUN 20: SPHAGN25	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB25	GS&ABUN 21: ONOSEN20	wetl JUXtapos(HML): M
GS&ABUN 2 : PINSTR 5	GS&ABUN 22: IMPCAP10	w. level FLUCtu (Hi
GS&ABUN 3 : ULMAME 5	GS&ABUN 23: CARSTR10	Lo Vernal pool): L
GS&ABUN 4 : SALNIG 4	GS&ABUN 24: CAREX 10	Veg.Spec. Richness: M
GS&ABUN 5 : CAROVA 1	GS&ABUN 25: JUNEFF10	
GS&ABUN 6 : PRUPEN 1	GS&ABUN 26: COPGRO 5	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : POPTRE 2	GS&ABUN 27: SYMFOE 5	WSI: 0.836
GS&ABUN 8 : aCERUB 1	GS&ABUN 28: CALPAL 1	WFV: 0.325
GS&ABUN 9 : sALIX 5	GS&ABUN 29: TYPLAT20	Perc. Wild. Food: M
GS&ABUN 10: ALNRUG25	GS&ABUN 30:	NO. of species: 29
GS&ABUN 11: ILEVER 4	INVESTigator : ASG	Prime : P
GS&ABUN 12: VIBREC 5	Dom Wetl Class (0-11): 6	Aesthetic: 0.030
GS&ABUN 13: CORAMO 2	SPec ELEM (ADEFHRSW) :	Tot ABUN: 265
GS&ABUN 14: RHURAD50	CLaSS Richn (1-5) : 4	Conifer? N
GS&ABUN 15: SPILAT10	SubTYpe Richn (ABCDE) : C	Trees : 0.162
GS&ABUN 16: VACCOR 1	VEGeta Intersp (HML) : M	Shrubs : 0.398
GS&ABUN 17: pINSTR 1	Surr. HABitat (123) : 1	Herbs : 0.440
GS&ABUN 18: SAMCAN 1	Cover DISpers.(ABCDE) : E	Bog : 0.094
GS&ABUN 19: RUBIDA 1	Percent Open W (LMHV) : L	SBTY : CMNPRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA090	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :N
Topo Config (CSVH) :S	FETch (LH or blank) :
Wetl SIZE (LMH) :M	DEPTH (SD or blank) :
Dom SOil type (int) : 33	HYdr CoN (None, Stream, River
Other SOil : 134	Lake or Combin. :S
Dom Surround Soil : 32	ACCeSS (Rd Wat Iso) :R
Other Surr. Soi1 : 510	POP'n density (LMH) :L
Other Surr. Soi2 : 66	loc SCARCity (LMH) :L
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :H	LEGAL accs (pub priV
TOpo. POsit. (LMH) :H	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIPARIan conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :E	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :E	SurGeol Under wl(ALOT):L PERMeabil (LMH):L
INL3 (APE) :E	SurGeol Surround(ALOT):L THICKness (LMH):L
INL4 (APE) :P	HPOsition (Perch,W,A) :P GW Relat (DRC) :C
INL5 (APE) :P	TRAnsmissivity (LMH) :L
OUTLet1 (APE) :P	

* NC New Castle RY Rye HA Hampton
NH North Hampton HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 6-4) N of Drinkwater Rd, W of Kings Rd, HF
 TA090 Field Date: 04/25/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	25	0.50	T	3
Pinus strobus	White pine	5	0.18	T	3
Ulmus americana	American elm	5	0.82	T	1
Salix nigra	Black willow	4	1.00	T	1
Carya ovata	Shagbark hickory	1	0.18	T	2
Prunus pensylvanica	Bird cherry	1	0.00	T	3
Populus tremuloides	Quaking aspen	2	0.00	T	2
Acer rubrum	Red maple	1	0.50	S	3
Salix sp.	Willow	5	0.82	S	1
Alnus rugosa	Speckled alder	25	1.00	S	1
Ilex verticillata	Winterberry	4	1.00	S	1
Viburnum recognitum	Northern arrowwood	5	0.82	S	1
Cornus amomum	Silky dogwood	2	0.82	S	3
Rhus radicans	Poison ivy	50	0.82	S	2
Spiraea latifolia	Meadowsweet	10	0.50	S	0
Vaccinium corymbosum	Highbush blueberry	1	0.82	S	2
Pinus strobus	White pine	1	0.18	S	3
Sambucus canadensis	Elderberry	1	0.18	S	1
Rubus idaeus	Red raspberry	1	0.00	B	3
Sphagnum sp.	Sphagnum moss	25	1.00	H	0
Onoclea sensibilis	Sensitive fern	20	1.00	H	0
Impatiens capensis	Jewelweed	10	0.82	H	0
Carex stricta	Tussock sedge	10	1.00	H	3
Carex sp.	Sedge	10	1.00	H	3
Juncus effusus	Soft rush	10	1.00	H	0
Coptis groenlandica	Goldthread	5	0.82	H	0
Symplocarpus foetidus	Skunk cabbage	5	1.00	H	0
Caltha palustris	Marsh marigold	1	1.00	H	0
Typha latifolia	Cattail	20	1.00	H	1

WSI: 0.835 WVF: 0.325 BOG: 0.094 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.02 BUSHY: 0.14 COMPACT: 0.03
 MARSH SBCL: ROBUST: 0.11 BROADL: 0.11 NARROW: 0.11 FLOATING: 0.00
 SUBTYPES: CMNPRUVW

WATERSHED: Taylor River TYPE: Shrub Swamp

RESULTS OF MODEL COMPUTATIONS

Benefit Score 1-R-A-N-K-10

1 Biol 51.9 :*****:*** :
 2 Hydro 59.2 :*****:** :
 3 GrWat 37.7 :**** : :
 4 Flood 64.7 :*****:** :
 5 ShoLi 0.00 :** : :

Benefit Score 1-R-A-N-K-10

6 WQual 60.7 :*****:*** :
 7 Econ 56.5 :***** : :
 8 Recr 30.1 :*** : :
 9 Aest 36.2 :***** : :
 10 Educ 46.0 :*****:** :

AVERAGE DECILE OF TEN MODELS: 5.20

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA092 PLACE: (Photo 6-4) Taylor River, between Osgood Rd & Rt88, HF

FL DATE : 04/22/86	GS&ABUN 20: JUNCUS 2	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB 6	GS&ABUN 21:	wetl JUXtapos(HML): H
GS&ABUN 2 : PINSTR 1	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : SALIX 1	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : ALNRUG45	GS&ABUN 24:	Veg.Spec. Richness: M
GS&ABUN 5 : sALIX 15	GS&ABUN 25:	
GS&ABUN 6 : SPILAT10	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : VIBREC 5	GS&ABUN 27:	WSI: 0.956
GS&ABUN 8 : CORSTO 1	GS&ABUN 28:	WFV: 0.451
GS&ABUN 9 : pRUPEN 1	GS&ABUN 29:	Perc. Wild. Food: H
GS&ABUN 10: ILEVER 5	GS&ABUN 30:	NO. of species: 20
GS&ABUN 11: VACCOR 1	INVESTigator : ASG	Prime : P
GS&ABUN 12: TYPLAT70	Dom Wetl Class (0-11): 3	Aesthetic: 0.009
GS&ABUN 13: CARSTR70	SPec ELEM (ADEFHRSW):	Tot ABUN: 327
GS&ABUN 14: CAREX 70	CLaSS Richn (1-5) : 5	Conifer? N
GS&ABUN 15: PHRCOM 1	SubTYpe Richn (ABCDE): C	Trees : 0.024
GS&ABUN 16: LYTSAL 1	VEGeta Intersp (HML) : H	Shrubs: 0.254
GS&ABUN 17: SOLIDA 2	Surr. HABitat (123) : 1	Herbs : 0.722
GS&ABUN 18: SPHAGN10	Cover DISpers.(ABCDE): B	Bog : 0.031
GS&ABUN 19: ONOSEN10	Percent Open W (LMHV): L	SBTY : CMNPRUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID :TA092	OUTlet2 (APE) :
2 letter TOWN codes*:HF	% Bord OW (NLMH) :H
Topo CONfig (CSVH) :S	FETch (LH or blank) :
Wetl SIZE (LMH) :H	DEPTH (SD or blank) :
Dom SOil type (int) : 134	HYdr CoN (None, Stream, River
Other SOil : 33	Lake or Combin. :S
Dom Surround Soil : 38	ACCeSS (Rd Wat Iso) :R
Other Surr. Soill : 313	POP'n density (LMH) :L
Other Surr. Soil2 : 538	loc SCARCity (LMH) :M
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :H	LEGAL accs (puB priV
TOpo. POSit. (LMH) :M	or Restricted) :V
Dom Hydr Condit(1-6):4	
RIPArian conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :P	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :P	SurGeol Under wl(ALOT):L PERmeabil (LMH):L
INL3 (APE) :P	SurGeol Surround(ALOT):L THICKness (LMH):L
INL4 (APE) :P	HPOSITION (Perch,W,A) :W GW Relat (DRC) :C
INL5 (APE) :E	TRAnsmissivity (LMH) :L
OUTLet1 (APE) :P	

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 6-4) Taylor River, between Osgood Rd & Rt88, HF
 TA092 Field Date: 04/22/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	6	0.50	T	3
Pinus strobus	White pine	1	0.18	T	3
Salix sp.	Willow	1	0.82	T	1
Alnus rugosa	Speckled alder	45	1.00	S	1
Salix sp.	Willow	15	0.82	S	1
Spiraea latifolia	Meadowsweet	10	0.50	S	0
Viburnum recognitum	Northern arrowwood	5	0.82	S	1
Cornus stolonifera	Red-osier dogwood	1	0.82	S	3
Prunus pensylvanica	Bird cherry	1	0.00	S	3
Ilex verticillata	Winterberry	5	1.00	S	1
Vaccinium corymbosum	Highbush blueberry	1	0.82	S	2
Typha latifolia	Cattail	70	1.00	H	1
Carex stricta	Tussock sedge	70	1.00	H	3
Carex sp.	Sedge	70	1.00	H	3
Phragmites communis	Reed	1	0.82	H	0
Lythrum salicaria	Purple loosestrife	1	1.00	H	0
Solidago sp.	Goldenrod	2		H	0
Sphagnum sp.	Sphagnum moss	10	1.00	H	0
Onoclea sensibilis	Sensitive fern	10	1.00	H	0
Juncus sp.	Rush	2		H	0

WSI: 0.956 WFV: 0.451 BOG: 0.030 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.04 BUSHY: 0.17 COMPACT: 0.03
 MARSH SBCL: ROBUST: 0.22 BROADL: 0.03 NARROW: 0.43 FLOATING: 0.00
 SUBTYPES: CMNPRUW

WATERSHED: Taylor River

TYPE: Shallow Fresh Marsh

RESULTS OF MODEL COMPUTATIONS

Benefit	Score	1-R-A-N-K-10
1 Biol	86.8	:*****;*****:
2 Hydro	81.5	:*****;*****:
3 GrWat	73.5	:*****;*****:
4 Flood	64.7	:*****;** :
5 ShoLi	37.9	:*****;*****:

Benefit	Score	1-R-A-N-K-10
6 WQual	74.5	:*****;*****:
7 Econ	82.6	:*****;*****:
8 Recr	54.7	:*****;*****:
9 Aest	50.7	:*****;***** :
10 Educ	66.6	:*****;***** :

AVERAGE DECILE OF TEN MODELS: 9.50

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA093 PLACE: (Photo 6-6) N of Osgood Rd, HF

FL DATE : 04/22/86	GS&ABUN 20: ONOSEN30	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB10	GS&ABUN 21: TYPLAT80	wetl JUXtapos(HML): H
GS&ABUN 2 : PINSTR 3	GS&ABUN 22:	w. level FLUCtu (Hi
GS&ABUN 3 : CAROVA 1	GS&ABUN 23:	Lo Vernal pool): L
GS&ABUN 4 : tSUCAN 1	GS&ABUN 24:	Veg.Spec. Richness: M
GS&ABUN 5 : pRUPEN 1	GS&ABUN 25:	
GS&ABUN 6 : ALNRUG30	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : aCERUB40	GS&ABUN 27:	WSI: 0.887
GS&ABUN 8 : sALIX 10	GS&ABUN 28:	WFV: 0.446
GS&ABUN 9 : VIBREC15	GS&ABUN 29:	Perc. Wild. Food: H
GS&ABUN 10: CORSTO 1	GS&ABUN 30:	NO. of species: 21
GS&ABUN 11: ILEVER 2	INVESTigator : ASG	Prime : P
GS&ABUN 12: SPILAT10	Dom Wetl Class (0-11): 3	Aesthetic: 0.003
GS&ABUN 13: SPITOM 2	SPec ELEM (ADEFHRSW):	Tot ABUN: 376
GS&ABUN 14: RUBALL 1	CLaSS Richn (1-5) : 3	Conifer? N
GS&ABUN 15: RUBIDA 1	SubTYpe Richn (ABCDE): C	Trees : 0.037
GS&ABUN 16: CARSTR60	VEGeta Intersp (HML) : M	Shrubs: 0.301
GS&ABUN 17: CAREX 60	Surr. HABitat (123) : 1	Herbs : 0.662
GS&ABUN 18: SYMFOE 3	Cover DISpers.(ABCDE): E	Bog : 0.040
GS&ABUN 19: SPHAGN15	Percent Open W (LMHV): L	SBTY : CMNPRUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID :TA093	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :N
Topo Config (CSVH) :S	FETch (LH or blank) :
Wetl SIZe (LMH) :M	DEPTH (SD or blank) :
Dom SOil type (int) : 395	HYdr CoN (None, Stream, River
Other SOil :	Lake or Combin. :S
Dom Surround Soil : 38	ACCeSS (Rd Wat Iso) :R
Other Surr. Soil1 : 313	POP'n density (LMH) :L
Other Surr. Soil2 : 26	loc SCARCity (LMH) :L
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Sur. SLOpe (LH) :H	LEGAL accs (pub priV
TOpo. POsit. (LMH) :M	or Restricted) :V
Dom Hydr Condit(1-6):5	
RIPArarian conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :P	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :E	SurGeol Under wl(ALOT):L PERmeabil (LMH):M
INL3 (APE) :	SurGeol Surround(ALOT):L THICKness (LMH):M
INL4 (APE) :	HPOSITION (Perch,W,A) :W GW Relat (DRC) :C
INL5 (APE) :	TRANsmissivity (LMH) :L
OUTLet1 (APE) :P	

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 6-6) N of Osgood Rd, HF
TA093 Field Date: 04/22/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	10	0.50	T	3
Pinus strobus	White pine	3	0.18	T	3
Carya ovata	Shagbark hickory	1	0.18	T	2
Tsuga canadensis	Hemlock	1	0.50	S	1
Prunus pensylvanica	Bird cherry	1	0.00	S	3
Alnus rugosa	Speckled alder	30	1.00	S	1
Acer rubrum	Red maple	40	0.50	S	3
Salix sp.	Willow	10	0.82	S	1
Viburnum recognitum	Northern arrowwood	15	0.82	S	1
Cornus stolonifera	Red-osier dogwood	1	0.82	S	3
Ilex verticillata	Winterberry	2	1.00	S	1
Spiraea latifolia	Meadowsweet	10	0.50	S	0
Spiraea tomentosa	Steeplebush	2	0.50	S	0
Rubus allegheniensis	Blackberry	1	0.00	B	3
Rubus idaeus	Red raspberry	1	0.00	B	3
Carex stricta	Tussock sedge	60	1.00	H	3
Carex sp.	Sedge	60	1.00	H	3
Symplocarpus foetidus	Skunk cabbage	3	1.00	H	0
Sphagnum sp.	Sphagnum moss	15	1.00	H	0
Onoclea sensibilis	Sensitive fern	30	1.00	H	0
Typha latifolia	Cattail	80	1.00	H	1

WSI: 0.887 WJV: 0.446 BOG: 0.039 SALT: 0.000 DUNE: 0.000
SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.13 BUSHY: 0.12 COMPACT: 0.03
MARSH SBCL: ROBUST: 0.21 BROADL: 0.08 NARROW: 0.31 FLOATING: 0.00
SUBTYPES: CMNPRUW

WATERSHED: Taylor River TYPE: Shallow Fresh Marsh

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10
1 Biol	60.4	:*****;**** :
2 Hydro	59.2	:*****;*: :
3 GrWat	50.9	:*****;** :
4 Flood	60.7	:**** :
5 ShoLi	0.00	**: :

Benefit	Score	1-R-A-N-K-10
6 WQual	64.7	:*****;**** :
7 Econ	65.2	:*****; :
8 Recr	43.8	:*****;*** :
9 Aest	46.3	:*****;*** :
10 Educ	61.9	:*****;*** :

AVERAGE DECILE OF TEN MODELS: 6.60

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA094 PLACE: (Photo 7-4) The Cove, W of Rt88, HF

FL DATE : 04/22/86	GS&ABUN 20: SOLIDA 2	Veg DENsity (HML) : M
GS&ABUN 1 : ACERUB15	GS&ABUN 21: ONOSEN20	wetl JUXtapos(HML): H
GS&ABUN 2 : ULMAME 1	GS&ABUN 22: IRIVER 4	w. level FLUCtu (Hi
GS&ABUN 3 : TSUCAN 2	GS&ABUN 23: SYMFOE 2	Lo Vernal pool): L
GS&ABUN 4 : PINSTR 2	GS&ABUN 24:	Veg.Spec. Richness: M
GS&ABUN 5 : aCERUB 5	GS&ABUN 25:	
GS&ABUN 6 : ALNRUG10	GS&ABUN 26:	ECOLOGICAL COMPUTATIONS:
GS&ABUN 7 : CORAMO 2	GS&ABUN 27:	WSI: 0.944
GS&ABUN 8 : tSUCAN 1	GS&ABUN 28:	WFV: 0.364
GS&ABUN 9 : bETLUT 1	GS&ABUN 29:	Perc. Wild. Food: M
GS&ABUN 10: pINSTR 2	GS&ABUN 30:	NO. of species: 23
GS&ABUN 11: TYPLAT70	INVESTigator : ASG	Prime : P
GS&ABUN 12: CALCAN40	Dom Wetl Class (0-11): 3	Aesthetic: 0.012
GS&ABUN 13: CARSTR50	SPec ELEM (ADEFHRSW):	Tot ABUN: 333
GS&ABUN 14: CAREX 50	CLaSS Richn (1-5) : 4	Conifer? N
GS&ABUN 15: JUNEFF10	SubTYpe Richn (ABCDE): C	Trees : 0.060
GS&ABUN 16: JUNCUS10	VEGeta Intersp (HML) : M	Shrubs: 0.063
GS&ABUN 17: SPHAGN15	Surr. HABitat (123) : 1	Herbs : 0.877
GS&ABUN 18: SCICYP 7	Cover DISpers.(ABCDE): A	Bog : 0.045
GS&ABUN 19: COPGR012	Percent Open W (LMHV): L	SBTY : MNPRUW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID : TA094	OUTlet2 (APE) :
2 letter TOWN codes*:HF	P% Bord OW (NLMH) :L
Topo CONfig (CSVH) :S	FETch (LH or blank) :L
Wetl SIZE (LMH) :H	DEPTH (SD or blank) :S
Dom SOil type (int) : 197	HYdr CoN (None, Stream, River
Other SOil : 395	Lake or Combin. :S
Dom Surround Soil : 313	ACCeSS (Rd Wat Iso) :R
Other Surr. Soill : 26	POP'n density (LMH) :L
Other Surr. Soil2 :	loc SCARCity (LMH) :H
wetl GRAdient (LH) :L	CROP (N Hay Fam Com):N
Surr. SLOpe (LH) :H	LEGAL accs (pub priV
TOpo. POsit. (LMH) :M	or Restricted) :V
Dom Hydr Condit(1-6):4	
RIPArarian conn (YN) :Y	
INLet1 (Abs Perrenial or Ephemeral :P	CALCULATED FROM OTHER DATA AND SOIL:
INL2 (APE) :P	SurGeol Under wl(ALOT):0 PERmeabil (LMH):M
INL3 (APE) :	SurGeol Surround(ALOT):0 THICKness (LMH):M
INL4 (APE) :	HPOsition (Perch,W,A) :W GW Relat (DRC) :C
INL5 (APE) :	TRAnsmissivity (LMH). :H
OUTlet1 (APE) :P	

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 7-4) The Cove, W of Rt88, HF

TA094

Field Date: 04/22/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	15	0.50	T	3
Ulmus americana	American elm	1	0.82	T	1
Tsuga canadensis	Hemlock	2	0.50	T	1
Pinus strobus	White pine	2	0.18	T	3
Acer rubrum	Red maple	5	0.50	S	3
Alnus rugosa	Speckled alder	10	1.00	S	1
Cornus amomum	Silky dogwood	2	0.82	S	3
Tsuga canadensis	Hemlock	1	0.50	S	1
Betula lutea	Yellow birch	1	0.50	S	2
Pinus strobus	White pine	2	0.18	S	3
Typha latifolia	Cattail	70	1.00	H	1
Calamagrostis canadensis	Bluejoint grass	40	1.00	H	0
Carex stricta	Tussock sedge	50	1.00	H	3
Carex sp.	Sedge	50	1.00	H	3
Juncus effusus	Soft rush	10	1.00	H	0
Juncus sp.	Rush	10		H	0
Sphagnum sp.	Sphagnum moss	15	1.00	H	0
Scirpus cyperinus	Woolgrass	7	1.00	H	3
Coptis groenlandica	Goldthread	12	0.82	H	0
Solidago sp.	Goldenrod	2		H	0
Onoclea sensibilis	Sensitive fern	20	1.00	H	0
Iris versicolor	Blue flag	4	1.00	H	0
Symplocarpus foetidus	Skunk cabbage	2	1.00	H	0

WSI: 0.943 WVF: 0.364

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.02 BUSHY: 0.03 COMPACT: 0.00

MARSH SBCL: ROBUST: 0.22 BROADL: 0.10 NARROW: 0.50 FLOATING: 0.00

SUBTYPES: MNPRUW

WATERSHED: Taylor River

TYPE: Shallow Fresh Marsh

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit Score 1-R-A-N-K-10

1 Biol	76.7	:*****:*****:
2 Hydro	64.4	:*****:****:
3 GrWat	79.2	:*****:*****:
4 Flood	60.7	:***** :
5 ShoLi	8.27	:**** :

Benefit Score 1-R-A-N-K-10

6 WQual	66.6	:*****:*****:
7 Econ	82.6	:*****:*****:
8 Recr	54.7	:*****:*****:
9 Aest	59.4	:*****:*****:
10 Educ	71.4	:*****:*****:

AVERAGE DECILE OF TEN MODELS: 8.60

Candidate for prime

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY

WID: TA096 PLACE: (Photo 6-6) S of Rt88, N of Munt Hill, HF

FL DATE	: 06/09/86	GS&ABUN 20:	ONOSEN30	Veg DENsity (HML)	:	H
GS&ABUN 1	: PINSTR15	GS&ABUN 21:	TYPLAT10	wetl JUXtapos(HML)	:	H
GS&ABUN 2	: ACERUB40	GS&ABUN 22:	GERMAC 2	w. level FLUCtu (Hi		
GS&ABUN 3	: SALIX 1	GS&ABUN 23:	SYMFOE 3	Lo Vernal pool):	L	
GS&ABUN 4	: pRUSER 1	GS&ABUN 24:	CALCAN 3	Veg.Spec. Richness:	M	
GS&ABUN 5	: VACCOR 3	GS&ABUN 25:	EUPMAC 1			
GS&ABUN 6	: uLMAME 3	GS&ABUN 26:	CARSTR10	ECOLOGICAL COMPUTATIONS:		
GS&ABUN 7	: aCERUB 7	GS&ABUN 27:	DRYTHE 3	WSI:	0.737	
GS&ABUN 8	: pINSTR 5	GS&ABUN 28:	CALPAL 1	WFV:	0.396	
GS&ABUN 9	: VIBREC10	GS&ABUN 29:	OSMREG 1	Perc. Wild. Food:	M	
GS&ABUN 10	: CORAMO 8	GS&ABUN 30:	IRIVER 1	NO. of species:	30	
GS&ABUN 11	: ROSPAL 3	INvestigator	:	Prime :		
GS&ABUN 12	: SPILAT 7	Dom Wetl. Class (0-11)	:	Aesthetic:	0.046	
GS&ABUN 13	: ALNRUG 8	SPec ELEM (ADEFHRSW)	:	Tot ABUN:	216	
GS&ABUN 14	: RHURAD15	CLaSs Richn (1-5)	:	Conifer?	N	
GS&ABUN 15	: VIBCAS 8	SubTYpe Richn (ABCDE)	:	Trees :	0.259	
GS&ABUN 16	: ILEVER 5	VEGeta Intersp (HML)	:	Shrubs:	0.384	
GS&ABUN 17	: EQUPRA 2	Surr. HABitat (123)	:	Herbs :	0.356	
GS&ABUN 18	: IMPCAP 5	Cover DISpers. (ABCDE)	:	Bog :	0.000	
GS&ABUN 19	: OSMCIN 5	Percent Open W (LMHV)	:	SBTY :	CNPRUVW	

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA

Wet ID	:	TA096	OUTlet2 (APE)	:	
2 letter TOWN codes*:HF	:		P% Bord OW (NLMH)	:	N
Topo CONfig (CSVH)	:	S	FETch (LH or blank)	:	
Wetl SIZE (LMH)	:	M	DEPTH (SD or blank)	:	
Dom SOil type (int)	:	533	HYdr CoN (None, Stream, River		
Other SOil	:	33	Lake or Combin.	:	S
Dom Surround Soil	:	38	ACCeSS (Rd Wat Iso)	:	R
Other Surr. Soi1	:	14	POP'n density (LMH)	:	L
Other Surr. Soi2	:		loc SCARCity (LMH)	:	L
wetl GRAdient (LH)	:	L	CROP (N Hay Fam Com):N		
Surr. SLOpe (LH)	:	H	LEGAL accs (puB priV		
TOpo. POsit. (LMH)	:	H	or Restricted)	:	V
Dom Hydr Condit(1-6):5					
RIPArain conn (YN)	:	Y			
INLet1 (Abs Perrenial					
or Ephemeral	:	E	CALCULATED FROM OTHER DATA AND SOIL:		
INL2 (APE)	:		SurGeol Under wl(ALOT):L	PERmeabil (LMH):L	
INL3 (APE)	:		SurGeol Surround(ALOT):L	THICKness (LMH):L	
INL4 (APE)	:		HPOSITION (Perch,W,A):P	GW Relat (DRC) :C	
INL5 (APE)	:		TRAnsmissivity (LMH)	:	L
OUTLet1 (APE)	:	E			

* NC New Castle
NH North Hampton

RY Rye
HF Hampton Falls

HA Hampton
SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 6-6) S of Rt88, N of Munt Hill, HF
 TA096 Field Date: 06/09/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Pinus strobus	White pine	15	0.18	T	3
Acer rubrum	Red maple	40	0.50	T	3
Salix sp.	Willow	1	0.82	T	1
Prunus serotina	Black cherry	1	0.18	S	3
Vaccinium corymbosum	Highbush blueberry	3	0.82	S	2
Ulmus americana	American elm	3	0.82	S	1
Acer rubrum	Red maple	7	0.50	S	3
Pinus strobus	White pine	5	0.18	S	3
Viburnum recognitum	Northern arrowwood	10	0.82	S	1
Cornus amomum	Silky dogwood	8	0.82	S	3
Rosa palustris	Marsh rose	3	1.00	S	1
Spiraea latifolia	Meadowsweet	7	0.50	S	0
Alnus rugosa	Speckled alder	8	1.00	S	1
Rhus radicans	Poison ivy	15	0.82	S	2
Viburnum cassinoides	Northern wild raisin	8	0.82	S	1
Ilex verticillata	Winterberry	5	1.00	S	1
Equisetum pratense	Meadow horsetail	2	0.82	H	0
Impatiens capensis	Jewelweed	5	0.82	H	0
Osmunda cinnamomea	Cinnamon fern	5	0.82	H	0
Onoclea sensibilis	Sensitive fern	30	1.00	H	0
Typha latifolia	Cattail	10	1.00	H	1
Geranium maculatum	Wild cranesbill	2	0.18	H	0
Symplocarpus foetidus	Skunk cabbage	3	1.00	H	0
Calamagrostis canadensis	Bluejoint grass	3	1.00	H	0
Eupatorium maculatum	Spotted joe pye weed	1	0.82	H	0
Carex stricta	Tussock sedge	10	1.00	H	3
Dryopteris thelypteris	Marsh fern	3	1.00	H	0
Caltha palustris	Marsh marigold	1	1.00	H	0
Osmunda regalis	Royal fern	1	1.00	H	0
Iris versicolor	Blue flag	1	1.00	H	0

WSI: 0.736 WVF: 0.395 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.07 BUSHY: 0.20 COMPACT: 0.03
 MARSH SBCL: ROBUST: 0.07 BROADL: 0.19 NARROW: 0.07 FLOATING: 0.00
 SUBTYPES:CNPRUVW

WATERSHED: Taylor River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	47.2	:*****:*	6 WQual	49.0	:****: :
2 Hydro	51.3	:*** : :	7 Econ	73.9	:*****:** :
3 GrWat	30.1	:** : :	8 Recr	36.9	:*****:*
4 Flood	65.6	:*****:*** :	9 Aest	43.4	:*****:** :
5 Sholi	0.00	:** : :	10 Educ	50.7	:*****:** :

AVERAGE DECILE OF TEN MODELS: 5.20

Copy of 'EVAL' datasheet: FIELD DATA & COMPUTATIONS ON ECOLOGICAL SUMMARY
 WID: TA097 PLACE: (Photo 6-8) Near Exeter/HF/HA town lines, HF
 FL DATE : 05/13/86 GS&ABUN 20: RANUNC 2 Veg DENsity (HML) : M
 GS&ABUN 1 : ACERUB60 GS&ABUN 21: SYMFOE10 wetl JUXtapos(HML): M
 GS&ABUN 2 : PINSTR10 GS&ABUN 22: ONOSEN25 w. level FLUCtu (Hi
 GS&ABUN 3 : ULMAME 5 GS&ABUN 23: OSMCIN 3 Lo Vernal pool): L
 GS&ABUN 4 : RHURAD20 GS&ABUN 24: OSMREG 1 Veg.Spec. Richness: M
 GS&ABUN 5 : aCERUB10 GS&ABUN 25: MAICAN10
 GS&ABUN 6 : pINSTR 4 GS&ABUN 26: PTEAQU 1 ECOLOGICAL COMPUTATIONS:
 GS&ABUN 7 : pOPTRE 1 GS&ABUN 27: EQUSYL 2 WSI: 0.641
 GS&ABUN 8 : VACCOR 7 GS&ABUN 28: TRIBOR 1 WFV: 0.402
 GS&ABUN 9 : ALNRUG 8 GS&ABUN 29: COPGRO 2 Perc. Wild. Food: H
 GS&ABUN 10: VIBREC 8 GS&ABUN 30: NO. of species: 29
 GS&ABUN 11: SPILAT 5 INVESTigator : GS Prime :
 GS&ABUN 12: ILEVER 5 Dom Wetl Class (0-11): 7 Aesthetic: 0.023
 GS&ABUN 13: CORAMO 2 SPec ELEM (ADEFHRSW): Tot ABUN: 216
 GS&ABUN 14: pRUSER 2 CLaSS Richn (1-5) : 3 Conifer? N
 GS&ABUN 15: SAMCAN 1 SubTYpe Richn (ABCDE): D Trees : 0.347
 GS&ABUN 16: GEUMAC 1 VEGeta Intersp (HML) : L Shrubs: 0.338
 GS&ABUN 17: ANEQUI 3 Surr. HABitat (123) : 2 Herbs : 0.315
 GS&ABUN 18: VERVIR 2 Cover DISpers.(ABCDE): D Bog : 0.000
 GS&ABUN 19: IMPCAP 5 Percent Open W (LMHV): L SBTY : CPRUVW

Copy of 'MAPR' datasheet: SOIL, MAP & PHOTO DATA
 Wet ID : TA097 OUTlet2 (APE) :
 2 letter TOWN codes*:HF % Bord OW (NLMH) :L
 Topo CONfig (CSVH) :S FETch (LH or blank) :
 Wetl SIZE (LMH) :M DEPTH (SD or blank) :
 Dom SOil type (int) : 538 HYdr CoN (None, Stream, River
 Other SOil : 33 Lake or Combin. :S
 Dom Surround Soil : 38 ACCeSs (Rd Wat Iso) :I
 Other Surr. Soi1 : 32 POP'n density (LMH) :L
 Other Surr. Soi2 : loc SCARCity (LMH) :L
 wetl GRAdient (LH) :L CROP (N Hay Fam Com):N
 Surr. SLOpe (LH) :H LEGAL accs (puB priV
 TOpo. POsit. (LMH) :H or Restricted) :V
 Dom Hydr Condit(1-6):5
 RIParian conn (YN) :Y
 INLet1 (Abs Perrenial
 or Ephemeral :E CALCULATED FROM OTHER DATA AND SOIL:
 INL2 (APE) : SurGeol Under wl(ALOT):L PERmeabil (LMH):L
 INL3 (APE) : SurGeol Surround(ALOT):L THICKness (LMH):L
 INL4 (APE) : HPOsition (Perch,W,A) :P GW Relat (DRC) :C
 INL5 (APE) : TRAnsmissivity (LMH) :L
 OUTLet1 (APE) :P

* NC New Castle
NH North Hampton

RY Rye HA Hampton
HF Hampton Falls SE Seabrook

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 6-8) Near Exeter/HF/HA town lines, HF
 TA097 Field Date: 05/13/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Acer rubrum	Red maple	60	0.50	T	3
Pinus strobus	White pine	10	0.18	T	3
Ulmus americana	American elm	5	0.82	T	1
Rhus radicans	Poison ivy	20	0.82	S	2
Acer rubrum	Red maple	10	0.50	S	3
Pinus strobus	White pine	4	0.18	S	3
Populus tremuloides	Quaking aspen	1	0.00	S	2
Vaccinium corymbosum	Highbush blueberry	7	0.82	S	2
Alnus rugosa	Speckled alder	8	1.00	S	1
Viburnum recognitum	Northern arrowwood	8	0.82	S	1
Spiraea latifolia	Meadowsweet	5	0.50	S	0
Ilex verticillata	Winterberry	5	1.00	S	1
Cornus amomum	Silky dogwood	2	0.82	S	3
Prunus serotina	Black cherry	2	0.18	S	3
Sambucus canadensis	Elderberry	1	0.18	S	1
Geum macrophyllum	Big-leaf avens	1	1.00	H	0
Anemone quinquefolia	Wood anemone	3	0.00	H	0
Veratrum viride	White hellebore	2	0.82	H	0
Impatiens capensis	Jewelweed	5	0.82	H	0
Ranunculus sp.	Buttercup	2		H	0
Symplocarpus foetidus	Skunk cabbage	10	1.00	H	0
Onoclea sensibilis	Sensitive fern	25	1.00	H	0
Osmunda cinnamomea	Cinnamon fern	3	0.82	H	0
Osmunda regalis	Royal fern	1	1.00	H	0
Maianthemum canadense	Canada mayflower	10	0.00	H	0
Pteridium aquilinum	Bracken	1	0.18	H	0
Equisetum sylvaticum	Wood horsetail	2	0.82	H	0
Trientalis borealis	Starflower	1	0.50	H	0
Coptis groenlandica	Goldthread	2	0.82	H	0

WSI: 0.640 WVF: 0.401 BOG: 0.000 SALT: 0.000 DUNE: 0.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.07 BUSHY: 0.14 COMPACT: 0.02
 MARSH SBCL: ROBUST: 0.03 BROADDL: 0.19 NARROW: 0.01 FLOATING: 0.00
 SUBTYPES: CPRUVW

WATERSHED: Taylor River TYPE: Wooded Swamp

R E S U L T S O F M O D E L C O M P U T A T I O N S

Benefit	Score	1-R-A-N-K-10	Benefit	Score	1-R-A-N-K-10
1 Biol	39.5	:***** : :	6 WQual	49.0	:***** : :
2 Hydro	61.8	:*****: ** : :	7 Econ	60.8	:*****: :
3 GrWat	33.9	:*** : :	8 Recr	31.5	:*** : :
4 Flood	60.7	:***** : :	9 Aest	26.0	:* : :
5 ShoLi	17.5	:*****: ** : :	10 Educ	28.5	:** : :

AVERAGE DECILE OF TEN MODELS: 4.00

4.3 OUTLINE OF FRESHWATER WETLANDS MODELS

Model 1 Biological Function

Element	Condition	Original model	Equivalent	Modified model
Dom Wet. Class DWC	0 Streamside	5 x 1	5	5
	1 OW	5 x 0	0	0
	2 Deep Mar	5 x 4	20	20
	3 Shal Mar	5 x 5	25	25
	4 An Floodp	5 x 5	25	25
	5 Wet Meadow	5 x 2	10	10
	6 Shrub Sw	5 x 4	20	20
	7 N Decid For	5 x 2	10	10
	7 Y Conif For	5 x 4	20	20
	8 Bog	5 x 3	15	15
Number of Wetl. Classes CLSR	9 Saltmarsh	-	-	-
	10 Dune	-	-	-
	5 or more	4 x 5	20	16
	4	4 x 4	16	12
	3	4 x 3	12	8
	2	4 x 2	8	4
	1	4 x 1	4	0
	A	3 x 5	15	12
	B	3 x 4	12	9
	C	3 x 3	9	6
No. Wetl Subcl STYR	D	3 x 2	6	3
	E	3 x 1	3	0
Vegetative Interspersion VEGI	H	4 x 3	12	8
	M	4 x 2	8	4
	L	4 x 1	4	0
Surrounding Habitat SHAB	1	3 x 3	9	6
	2	3 x 2	6	3
	3	3 x 1	3	0
Cover Disper- sion CDIS	A	3 x 4	12	9
	B	3 x 2	6	5
	C	3 x 3	9	7
	D	3 x 1	3	3
	E			0
Vegetative Spec Richness VSR	H	2 x 3	6	4
	M	2 x 2	4	2
	L	2 x 1	2	0
Proportion of Wildlife Food PWF	H	1 x 3	3	2
	M	1 x 2	2	1
	L	1 x 1	1	0

(Biol Model 1, cont'd)

Vegetative Density	H	2	x	3	6	4
VDEN	M	2	x	2	4	2
	L	2	x	1	2	0
Wetland Juxtaposit.	H	3	x	3	9	9
JUX	M	3	x	2	6	6
	L	3	x	0	0	0
Hydrologic Position	W	2	x	4	8	6
HPOS	A	2	x	3	6	4
	P	2	x	1	2	0
Water level Fluctuation	H	1	x	0	0	0
FLUC	L	1	x	2	2	2
	V	1	x	1	1	1
Hydrologic Connection	S	1	x	1	1	1
HYCN	R	1	x	2	2	2
	L	1	x	3	3	3
	C	1	x	4	4	4
	N	1	x	0	0	0
Percent Wetl. Bordering OW	L	4	x	1	4	4
PBOW	M	4	x	2	8	8
	H	4	x	3	12	12
	N	4	x	0	0	0
Wetland Size	H	5	x	3	15	10
WSIZ	M	5	x	2	10	5
	L	5	x	1	5	0
<hr/>						
MINIMUM TOTAL				29	0	
MAXIMUM TOTAL				158	129 / 1.29 = 100	
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Model 2 Hydrologic Support Function

Element	Condition	Original model	Equivalent	Modified model
Wetland Size WSIZ	High	4 x 3	12	8
	Moderate	4 x 2	8	4
	Low	4 x 1	4	0
Topographic Configuration TCON	S	1 x 3	3	3
	V	1 x 2	2	2
	H	1 x 1	1	1
	C	1 x 0	0	0
Dominant Hydrologic Cond. DHC	1	5 x 1	5	5
	2	5 x 2	10	10
	3	5 x 3	15	15
	4	5 x 4	20	20
	5	5 x 5	25	25
	6	5 x 0	0	0
Water level Fluctuation FLUC	L	2 x 2	4	2
	H	2 x 1	2	0
Outlet #1 OUTL1	P	4 x 2	8	8
	E	4 x 1	4	4
	A	4 x 0	0	0
Outlet #2 OUTL2	P	4 x 2	8	8
	E	4 x 1	4	4
	A	4 x 0	0	0
Inlet #1 INL1	P	1 x 2	2	2
	E	1 x 1	1	1
	A	1 x 0	0	0
Inlet #2 INL2	P	1 x 2	2	2
	E	1 x 1	1	1
	A	1 x 0	0	0
Inlet #3 INL3	P	1 x 2	2	2
	E	1 x 1	1	1
	A	1 x 0	0	0
Inlet #4 INL4	P	1 x 2	2	2
	E	1 x 1	1	1
	A	1 x 0	0	0

(Hydrol. Support, Model 2, cont'd)

Inlet #5	P	1	x	2	2	2
INL5	E	1	x	1	1	1
	A	1	x	0	0	0
Percent Border- H		4	x	3	12	12
ing Open Water M		4	x	2	8	8
PBOW	L	4	x	1	4	4
	N	4	x	0	0	0
<hr/>						
MINIMUM TOTAL					6	0
MAXIMUM TOTAL					82	76 / 0.76 = 100
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Model 3 Ground Water Function

Element	Condition	Original model	Equivalent	Modified model
Surficial Geology (Und)	Outw Lake	3 x 4 3 x 3	12 9	9 6
SGU	Alluv	3 x 2	6	3
	Till	3 x 1	3	0
Thickness of Organics	L M or H		4	then use PER
THI				
Permeability of H Organics	M	2 x 3 2 x 2	6 4	2 1
PER	L	2 x 1	2	0
Hydrologic Position	W A	5 x 4 5 x 1	20 5	10 0
HPOS	P	5 x 2	10	0
Transmissivity of Aquifer	H M	4 x 3 4 x 2	12 8	8 4
TRA	L	4 x 1	4	0
Inlet #1	P	1 x 3	3	2
INL1	E	1 x 2	2	1
	A	1 x 1	1	0
Inlet #2	P	1 x 3	3	2
INL2	E	1 x 2	2	1
	A	1 x 1	1	0
Inlet #3	P	1 x 3	3	2
INL3	E	1 x 2	2	1
	A	1 x 1	1	0
Inlet #4	P	1 x 3	3	2
INL4	E	1 x 2	2	1
	A	1 x 1	1	0
Inlet #5	P	1 x 3	3	2
INL5	E	1 x 2	2	1
	A	1 x 1	1	0

(Model 3, Ground Water, cont'd)

Outlet #1	A and O2=A	2 x 3	6	6
OUTL1	P	2 x 2	4	4
	E	2 x 1	2	2
Outlet #2	A	see above scores	0	0
OUTL2	P	see above scores	0	0
	E	see above scores	0	0
Wetland Size	H	3 x 3	9	6
WSIZ	M	3 x 2	6	3
	L	3 x 1	3	0
<hr/>				
MINIMUM TOTAL			24	0
MAXIMUM TOTAL			80	53 / 0.53 = 100
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Model 4 Storm and Flood water Storage Function

Element	Condition	Original model	Equivalent	Modified model
Dom Wet. Class	0	2 x 1	2	0
DWC	1	2 x 1	2	0
	2	2 x 2	4	2
	3	2 x 4	8	6
	4	2 x 4	8	6
	5	2 x 3	6	4
	6	2 x 5	10	8
	7	2 x 4	8	6
	8	2 x 3	6	4
	9	-	-	-
	10	-	-	-
Percent Open Water	L	2 x 3	6	6
	M	2 x 2	4	4
POW	H	2 x 1	2	2
	V	2 x 0	0	0
Vegetative Density	H	4 x 3	12	8
	M	4 x 2	8	4
VDEN	L	4 x 1	4	0
Topographic Configuration	C or more	2 x 4	8	6
	S	2 x 3	6	4
TCON	V	2 x 2	4	2
	H	2 x 1	2	0
Topographic Position	H	3 x 3	9	6
	M	3 x 2	6	3
TOPO	L	3 x 1	3	0
Surficial Mat- erial of Watershed	Till	2 x 4	8	6
	Lake	2 x 3	6	4
	Alluv	2 x 2	4	2
SGS	Outw	2 x 1	2	0
Surficial Mat- erial of Wetland banks	Till	2 x 1	2	0
	Lake	2 x 2	4	2
	Alluv	2 x 3	6	4
SGU	Outw	2 x 4	8	6
Permeability of Organics	H	1 x 2	2	2
	M	1 x 1	1	1
PER	L	1 x 0	0	0

(Model 4, Storm & Flood, cont'd)					
Dominant	6	5	x	6	30
Hydrologic	5	5	x	5	25
Condition	4	5	x	4	20
DHC	3	5	x	3	15
	2	5	x	2	10
	1	5	x	1	5
Connection to	Y	4	x	2	8
Riparian Sys.	N	4	x	1	4
RIPA					0
Water level	H	3	x	2	6
Fluctuation	L	3	x	1	3
FLUC	V	3	x	?	?
Inlet #1	P	1	x	2	2
INL1	E	1	x	1	1
	A	1	x	0	0
Inlet #2	P	1	x	2	2
INL2	E	1	x	1	1
	A	1	x	0	0
Inlet #3	P	1	x	2	2
INL3	E	1	x	1	1
	A	1	x	0	0
Inlet #4	P	1	x	2	2
INL4	E	1	x	1	1
	A	1	x	0	0
Inlet #5	P	1	x	2	2
INL5	E	1	x	1	1
	A	1	x	0	0
Outlet #1	P	1	x	1	1
OUTL1	E	1	x	2	2
	A	1	x	0	0
Outlet #2	P	1	x	1	1
OUTL2	E	1	x	2	2
	A	1	x	0	0
Wetland Size	H	4	x	3	12
WSIZ	M	4	x	2	8
	L	4	x	1	4
MINIMUM TOTAL				31	0
MAXIMUM TOTAL				133	102 / 1.02 = 100

Model 5 Shoreline Protection Function

Element	Condition	Original model	Equivalent	Modified model
if PBOW = N	value = 0			
if PBOW = L	value x 0.3			
if PBOW = M	value x 0.6			
if PBOW = H	value x 1.0			
Veg. Density	High	2 x 3	6	4
VDEN	Moderate	2 x 2	4	2
	Low	2 x 1	2	0
Dom Wet. Class	0	3 x 0	0	0
DWC	1	3 x 0	0	0
	2	3 x 1	3	3
	3	3 x 2	6	6
	4	3 x 4	12	12
	5	3 x 1	3	3
	6	3 x 4	12	12
	7	3 x 4	12	12
	8	3 x 3	9	9
	9	-	-	-
	10	-	-	-
Surficial Mat.	Till	1 x 2	2	1
under wetland	O(S&G)	1 x 1	1	0
SGU	L(Si)	1 x 4	4	3
	Alluvium	1 x 3	3	2
Fetch	H	4 x 2	8	8
FET	L	4 x 1	4	4
	(not a lake)	4 x 0	0	0
Depth of lake	D	1 x 2	2	2
DEPTH	S	1 x 1	1	1
	(not a lake)	1 x 0	0	0
MINIMUM TOTAL			3	0
MAXIMUM TOTAL			32	29 / 0.29 = 100

Model 6 Water Quality Maintenance Model

Element	Condition	Original model	Equivalent	Modified model
Dom Wetland	0	4 x 1	4	4
Class	1	4 x 0	0	0
DWC	2	4 x 3	12	12
	3	4 x 4	16	16
	4	4 x 4	16	16
	5	4 x 3	12	12
	6	4 x 4	16	12
	7	4 x 2	8	8
	8	4 x 2	8	8
	9	-	-	-
	10	-	-	-
Percent Open Water	L	1 x 3	3	3
	M	1 x 2	2	2
POW	H	1 x 1	1	1
	V	1 x 0	0	0
Veg. Density	High	3 x 3	9	6
VDEN	Moderate	3 x 2	6	3
	Low	3 x 1	3	0
Topographic Configuration	C	3 x 4	12	9
	S	3 x 3	9	6
TCON	V	3 x 2	6	3
	H	3 x 1	3	0
Topographic Position	H	2 x 1	2	0
	M	2 x 2	4	2
TOPO	L	2 x 3	6	4
Permeability of Organics	H	1 x 1	1	1
	M	1 x 2	2	2
PER	L	1 x 0	0	0
Dominant Hydrologic Condition	6	4 x 6	24	20
	5	4 x 5	20	16
	4	4 x 4	16	12
DHC	3	4 x 3	12	8
	2	4 x 2	8	4
	1	4 x 1	4	0
Connection to Riparian sys	Y	2 x 2	4	2
RIPA	N	2 x 1	2	0

(Model 6, Water Quality Function, cont'd)

Inlet #1	P	2	x	2	4	4
INL1	E	2	x	1	2	2
	A	2	x	0	0	0
Inlet #2	P	2	x	2	4	4
INL2	E	2	x	1	2	2
	A	2	x	0	0	0
Inlet #3	P	2	x	2	4	4
INL3	E	2	x	1	2	2
	A	2	x	0	0	0
Inlet #4	P	2	x	2	4	4
INL4	E	2	x	1	2	2
	A	2	x	0	0	0
Inlet #5	P	2	x	2	4	4
INL5	E	2	x	1	2	2
	A	2	x	0	0	0
Outlet #1	P	3	x	2	6	6
OUTL1	E	3	x	1	3	3
	A	3	x	0	0	0
Outlet #2	P	3	x	2	6	6
OUTL2	E	3	x	1	3	3
	A	3	x	0	0	0
Wetland size	H	4	x	3	12	8
WSIZ	M	4	x	2	8	4
	L	4	x	1	4	0
<hr/>						
MINIMUM TOTAL				18	0	
MAXIMUM TOTAL				120	102 / 1.02 = 100	
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Model 7 Cultural and Economic Model

Element	Condition	Original model	Equivalent	Modified model
Dom Wetland	0	4 x 0	0	0
Class	1	4 x 0	0	0
DWC	2	4 x 4	16	16
	3	4 x 4	16	16
	4	4 x 0	0	0
	5	4 x 2	8	8
	6	4 x 3	12	12
7 N	7	4 x 5	20	20
7 Y	Y	4 x 6	24	24
	8	4 x 3	12	12
	9	-	-	-
	10	-	-	-
Access	R	3 x 3	9	6
ACCS	W	3 x 2	6	3
	I	3 x 1	3	0
Wetland size	H	8 x 3	24	16
WSIZ	M	8 x 2	16	8
	L	8 x 1	8	0
MINIMUM TOTAL			11	0
MAXIMUM TOTAL			57	46 / 0.46 = 100

Model 8 Recreational Function Model

Element	Condition	Original model	Equivalent	Modified model
Dom Wetland	0	3 x 0	0	12
Class	1	3 x 0	0	20
DWC	2	3 x 6	18	20
	3	3 x 5	15	12
	4	3 x 0	0	0
	5	3 x 0	0	5
	6	3 x 2	6	5
	7 N	3 x 2	6	10
	7 Y	3 x 3	9	10
	8	3 x 2	6	8
	9	-	-	10
	10	-	-	10
Percent Open	L	3 x 1	3	0
Water	M	3 x 2	6	3
POW	H	3 x 3	9	6
	V	3 x 0	0	9
Hydrological	S	4 x 1	4	2
Connection	R	4 x 2	8	8
HCON	L	4 x 3	12	12
	C	4 x 4	16	16
	N	4 x 0	0	0
Access	R	2 x 3	6	4
ACCS	W	2 x 2	4	2
	I	2 x 1	2	0
Wetland size	H	4 x 3	12	16
WSIZ	M	4 x 2	8	8
	L	4 x 1	4	0
Legal Access	B	2 x 2	4	2
LEGAL	V	2 x 1	2	0
	R	2 x 1	2	0
Biological	H	3 x 3	9	6
Value	M	3 x 2	6	3
(from model 1)	L	3 x 1	3	0
MINIMUM TOTAL				11 0
MAXIMUM TOTAL				74 73 / 0.73 = 100

Model 9 Aesthetic Function Model

Element	Condition	Original model	Equivalent	Modified model
Dom Wetland	0	4 x 0	0	0 12
Class	1	4 x 0	0	0 20
DWC	2	4 x 5	20	20 20
	3	4 x 4	16	16 16
	4	4 x 0	0	0 0
	5	4 x 0	0	0 10
	6	4 x 2	8	6 6
	7 N	4 x 3	12	12 8
	7 Y	4 x 3	12	12 12
	8	4 x 5	20	20 20
	9	-	-	-
	10	-	-	-
Subclass	A	3 x 4	12	9
Richness	B	3 x 4	12	9
STYR	C	3 x 3	9	6
	D	3 x 2	6	3
	E	3 x 1	3	0
Percent Open Water	L	4 x 1	4	4
POW	M	4 x 3	12	12
	H	4 x 4	16	16
	V	4 x 0	0	0
Access	R	3 x 3	9	6
ACCS	W	3 x 2	6	3
	I	3 x 1	3	0
Local Scarcity	H	3 x 3	9	6
SCARC	M	3 x 2	6	3
	L	3 x 1	3	0
BEAUTy value	gt 0.2			12
	gt 0.1			6
	gt 0.01			3
	lt 0.01			0
MINIMUM TOTAL			9	0
MAXIMUM TOTAL			66	69 / 0.69 = 100

Model 10 Education Function Model

Element	Condition	Original model	Equivalent	Modified model
Subclass	A	3 x 4	12	9
Richness	B	3 x 4	12	9
STYR	C	3 x 3	9	6
	D	3 x 2	6	3
	E	3 x 1	3	0
Access	R	4 x 3	12	8
ACCS	W	4 x 2	8	4
	I	4 x 1	4	0
Biol. value from FMC1	H		10	
	M		5	
	L		0	
Dominant Wetl.	0		10	
Class	1		5	
DWC	2		10	
	3		10	
	4		0	
	5		3	
	6		5	
	7 N		5	
	7 Y		15	
	8		20	
	9		20	
	10		20	
Local Scarcity	H		6	
SCARC	M		3	
	L		0	
Vegetative Species	H		10	
Richness	M		5	
VSR	L		0	
MINIMUM TOTAL			7	0
MAXIMUM TOTAL			24	63 / 0.63 = 100

5.0 APPENDIX: SALT MARSHES, DETAILED RESULTS

5.1 HOW TO USE THE RESULTS

Assessment of the tidal marsh systems was based on infra-red photo interpretation and field surveys. This report presents a broad overview of conditions. More detailed work is necessary to document the more highly impacted tidal systems and to monitor changes that will occur if efforts are made to restore their hydrology.

To assess the general health of a tidal marsh system, the following factors were considered:

1. Extent of panne and/or rotten spots present on the high marsh surface.
2. Presence of species indicative of high saline conditions, such as *Salicornia* sp. and the short form of *Spartina alterniflora* on the high marsh.
3. Presence of species, such as *Lythrum salicaria*, *Phragmites* sp. and *Typha* sp. which indicate progression of the high marsh toward a freshwater tidal system. Also, species such as *Phragmites*, and to a lesser extent *Typha*, which often point to a man-made disturbance.
4. Presence of man-made restrictions, such as culverts, road and railroad beds, extensive mosquito ditching, stream blockages due to riprap and/or fell.
5. Presence of bedrock and/or glacial till islands in the high marsh, or other unique geological or topographical features. These areas provide an ecotonal situation which contributes to the diversity of wildlife on the marsh.
6. Presence of open areas of freshwater, adjacent to tidal marsh systems. These sites provide a diversity in habitat which increases the biological diversity of flora and fauna in the area.
7. Integrity of the border zone around the tidal marsh system. The border zone not only buffers the high marsh from human activities, but also provides a biologically rich habitat, due to its ecotonal nature.

8. Relative size of the tidal marsh and its proximity to other similar systems.
9. Development of salt marsh peat, which includes depth of soil, stage of decomposition, texture of underlying mineral soil materials and total salts in surface soil materials. For a description of salt marsh soils, see Section 3.2.3.

Though a quantitative model was not used in the assessment of these tidal systems, each of the criteria above were assigned a value of high, medium or low for each marsh, from which were calculated a rating for the marsh's overall health. Section 5.2 presents these results, along with brief comments for each marsh.

5.2 RESULTS TABLES

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM001
 LOCATION: (Photo 2-26) North Shore, NC

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	High(1)	Med.(2) *Low(3) 3
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2) *Low(3) 3
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2) * Low(3) 2.5
(-) Obstruct./Restrict.	High(1)	*Med.(2) Low(3) 2
(+) Unique Geological/ Topographical Formations	High(3)	*Med.(2) Low(1) 2
(+) Buffer/Borderzone	High(3)	Med.(2) *Low(1) 1
(+) Relative Size	Large(3)	Med.(2) *Sma.(1) 1
(+) Relative Uniqueness	*Rare(3)	Med.(2) Com.(1) 3
(+) Soil Type	397(3)	497,597, & 697 (2) 797 & 997 (1) ?

General Health Index (\bar{X}): 2.2

COMMENTS:

Culvert into this marsh may need to be cleaned out.

(A) Intertidal patch of marsh with a small strip of *Spartina patens*

(B) *Spartina alterniflora* all the way up drainage ditch until point *Typha* enters the marsh from the east. Majority of marsh supports *Spartina patens*, *Juncus gerardi*, and *Distichlis spicata*. On the eastern border switch grass and *Juncus (balticus)* possibly.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM002

LOCATION: (Photo 2-26) East of Boatswain Hill, NC

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	*Med.(2)	Low(3)	2
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	* Low(3)	2.5
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)	* Low(3)	2.5
(-) Obstruct./Restrict.	High(1)	*Med.(2)	Low(3)	2
(+) Unique Geological/ Topographical Formations	High(3)	*Med.(2)	Low(1)	2
(+) Buffer/Borderzone	High(3)	*Med.(2)	Low(1)	2
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	*Rare(3)	Med.(2)	Com.(1)	3
(+) Soil Type	397(3)	*497,597, & 697 (2)	797 & 997 (1)	2

General Health Index (\bar{X}): 2.1

COMMENTS:

This is a unique isolated system, which is hard to approach without crossing private property. Even though the houses are very close to the marsh on the western boundary, the main channel of the tidal creek prevents easy access to the high marsh.

The upper part of this system (A) is primarily forb pannes dominated by arrow-grass, black grass and some golden rod around the border zone.
 (B) There are two major restrictions to flushing in the high marsh:

(SM002 Cont.)

a stone wall and a berm. Behind the berm is a *Typha* stand. This area could be classified as tidal-fresh water. (C) A small stand of *Phragmites* is growing on an area where a tree fell into the marsh. (D) From photo interpretation (only) there appears to be an obstruction (possibly stones) at the mouth of the system.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM003
 LOCATION: (Photo 1-24) Little Harbor, NC

	SUBJECT		SCORE		TOTAL
(-)	Pannes/Rotten Spots	High(1)	Med. (2)	*Low(3)	3
(-)	Indicator Species Re: High Saline Conditions	High(1)	Med. (2)	*Low(3)	3
(-)	Borderzone/Freshwater Species Encroachment	High(1)	Med. (2)	*Low(3)	3
(-)	Obstruct./Restrict.	High(1)	Med. (2)	*Low(3)	3
(+)	Unique Geological/ Topographical Formations	High(3)	Med. (2)	* Low(1)	1.5
(+)	Buffer/Borderzone	High(3)	*Med. (2)	Low(1)	2
(+)	Relative Size	Large(3)	Med. (2)	*Sma.(1)	1
(+)	Relative Uniqueness	*Rare(3)	Med. (2)	Com.(1)	3
(+)	Soil Type	397(3)	497,597, & 697 (2)	797 & 997 (1) ?	

General Health Index (\bar{X}): 2.4

COMMENTS:

This site is mostly intertidal. It is an important marsh due to the lack of similar systems in this area. There is potential for impact to the system if boat traffic into and out of Little Harbor increases and/or if the docking facilities to the west are enlarged.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM005, SM006, SM007

LOCATION: (Photo 2-24) Point West of Wentworth Hotel, NC

	SUBJECT	SCORE	TOTAL
(-)	Pannes/Rotten Spots	High(1) Med.(2) *Low(3)	3
(-)	Indicator Species Re: High Saline Conditions	High(1) Med.(2) *Low(3)	3
(-)	Borderzone/Freshwater Species Encroachment	High(1) Med.(2) *Low(3)	3
(-)	Obstruct./Restrict.	High(1) Med.(2) *Low(3)	3
(+)	Unique Geological/Topographical Formations	*High(3) Med.(2) Low(1)	3
(+)	Buffer/Borderzone	High(3) *Med.(2) Low(1)	2
(+)	Relative Size	Large(3) Med.(2) *Sma.(1)	1
(+)	Relative Uniqueness	Rare(3) * Med.(2) Com.(1)	2.5
(+)	Soil Type	397(3) *497,597, 797 & 697 (2) 997 (1)	2

General Health Index (\bar{X}): 2.5

COMMENTS:

Both intertidal and high marsh exist at these sites.

SM005 - narrow band of intertidal marsh with healthy high marsh; *Spartina patens* and blackgrass present.

SM006 - mostly intertidal with a small strip of high marsh.

SM007 - (photo interpretation only) appears to have a thin stand of *Spartina alterniflora*; 80% of area high marsh.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM008

LOCATION: (Photo 2-24) Leach's Island, NC

	SUBJECT		SCORE		TOTAL
(-)	Pannes/Rotten Spots	High(1)	Med.(2)	*Low(3)	3
(-)	Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	*Low(3)	3
(-)	Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)	*Low(3)	3
(-)	Obstruct./Restrict.	High(1)	Med.(2)	*Low(3)	3
(+)	Unique Geological/ Topographical Formations	*High(3)	Med.(2)	Low(1)	3
(+)	Buffer/Borderzone	*High(3)	Med.(2)	Low(1)	3
(+)	Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+)	Relative Uniqueness	*Rare(3)	Med.(2)	Com.(1)	3
(+)	Soil Type	397(3)	497, 597, & 697 (2)	797 & 997 (1)	?

General Health Index (\bar{X}): 2.8

COMMENTS:

(photo interpretation only) Unique well-protected system. Undoubtedly provides good wildlife/waterfowl/shore bird feeding habitat.

Very few large irregular pannes. Many small circular to oval pannes. indicating deeper standing water which aids survival of fish and invertebrates brought in on the higher tides.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM009

LOCATION: (Photo 2-26) Goat Island and nearby islands, NC

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	High(1)	Med.(2) *Low(3) 3
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2) *Low(3) 3
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2) *Low(3) 3
(-) Obstruct./Restrict.	High(1)	Med.(2) *Low(3) 3
(+) Unique Geological/ Topographical Formations	*High(3)	Med.(2) Low(1) 3
(+) Buffer/Borderzone	High(3)	*Med.(2) Low(1) 2
(+) Relative Size	Large(3)	Med.(2) *Sma.(1) 1
(+) Relative Uniqueness	*Rare(3)	Med.(2) Com.(1) 3
(+) Soil Type	397(3)	497,597, & 697 (2) 797 & 997 (1) ?

General Health Index (X): 2.6

COMMENTS:

These are small islands of mostly intertidal marsh. The rarity of salt marsh in the region makes these quite important despite their small size.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM010
 LOCATION: (Photo 2-22, 2-24) Witch Creek, RY

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	High(1)	Med.(2) *Low(3) 3
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2) *Low(3) 3
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2) *Low(3) 3
(-) Obstruct./Restrict.	High(1)	Med.(2) *Low(3) 3
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2) *Low(1) 1
(+) Buffer/Borderzone	*High(3)	Med.(2) Low(1) 3
(+) Relative Size	Large(3)	*Med.(2) Sma.(1) 2
(+) Relative Uniqueness	Rare(3)	*Med.(2) Com.(1) 2
(+) Soil Type	*397(3)	497, 597, & 697 (2) 797 & 997 (1) 3

General Health Index (\bar{X}): 2.6

COMMENTS:

- (A) At western end, large areas of black grass (*Juncus gerardi*) *Spartina patens*, silver weed (*Potentilla anserina*) and, to a lesser extent, seaside plantain (*Plantago juncoides*) and arrow-grass. *Spartina alterniflora* grows nearly to tree line along stream channel. Channel contains numerous rocks.

(SM010 Cont.)

(B) Island where marsh widens still has a good deal of black grass.

Stones in creeks not evident downstream of island.

(C) Small stand of *Typha* near golf course to the north.

(D) Small stand of *Scirpus* along edge of marsh on southern border. Stone wall extends into marsh just east of narrows and island.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM011

LOCATION: (Photo 2-22) Berry's Brook, West of Brackett Road, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1) *	Med.(2)	Low(3)	1.5
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2) *	Low(3)	2.5
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)	*Low(3)	3
(-) Obstruct./Restrict.	High(1)	*Med.(2)	Low(3)	2
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2) *	Low(1)	1.5
(+) Buffer/Borderzone	High(3)	*Med.(2)	Low(1)	2
(+) Relative Size	Large(3)	*Med.(2)	Sma.(1)	2
(+) Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+) Soil Type	397(3)	*497, 597, & 697 (2)	797 & 997 (1)	2

General Health Index (\bar{X}): 1.9

COMMENTS:

- (A) A combination of stone walls, mosquito ditch levees and vehicle tracks on the high marsh inhibits drainage at this site. Undoubtedly an excellent birding location. Many pannes are deep enough to support *Ruppia maritima* and will probably contain water through the summer.

(SM011 Cont.)

(B) Forb pannes in evidence; area dominated by short *Spartina alterniflora*, arrow-grass, *Salicornia*, silver weed.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM012

LOCATION: (Photos 1-22, 2-24) Mouth of Berry's Brook, RY

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	High(1) Med.(2) *	Low(3) 2.5
(-) Indicator Species Re: High Saline Conditions	High(1) Med.(2) *	Low(3) 2.5
(-) Borderzone/Freshwater Species Encroachment	High(1) Med.(2) *Low(3)	3
(-) Obstruct./Restrict.	High(1) *Med.(2)	Low(3) 2
(+) Unique Geological/ Topographical Formations	High(3) Med.(2) *	Low(1) 1.5
(+) Buffer/Borderzone	High(3) * Med.(2)	Low(1) 2.5
(+) Relative Size	Large(3) *Med.(2)	Sma.(1) 2
(+) Relative Uniqueness	Rare(3) Med.(2) *	Com.(1) 1.5
(+) Soil Type	397(3) *497,597, & 697 (2)	797 & 997 (1) 2

General Health Index (\bar{X}): 2.2

COMMENTS:

Egrets and herons sighted.

- (A) Four stone walls not only restrict tidal flooding, but also trap water in this area. Between 2nd and 3rd stone wall there are numerous pannes with scattered stands of short *Spartina alterniflora*.

(SM012 Cont.)

(B) Beyond restriction: a few forb pannes dominated by arrow-grass and some *Salicornia*. Evidence of a good deal of *Salicornia* at this site last year; at present *Spartina alterniflora* and black grass dominate.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM013

LOCATION: (Photo 1-24) Mouth of Berry's Brook, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	Med.(2)	*Low(3)	3
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	*Low(3)	3
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)	*Low(3)	3
(-) Obstruct./Restrict.	High(1)	Med.(2)	*Low(3)	3
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	*Med.(2)	Low(1)	2
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	*Med.(2)	Com.(1)	2
(+) Soil Type	397(3)	*497, 597, & 697 (2)	797 & 997 (1)	2

General Health Index (\bar{X}): 2.2

COMMENTS:

Very healthy system. *Spartina alterniflora* borders outer edge; forb pannes in center.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM014

LOCATION: (Photo 1-24) Odiorne Point, RY

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	High(1) Med.(2) *Low(3)	3
(-) Indicator Species Re: High Saline Conditions	High(1) Med.(2) *Low(3)	3
(-) Borderzone/Freshwater Species Encroachment	High(1) Med.(2) *Low(3)	3
(-) Obstruct./Restrict.	High(1) Med.(2) *Low(3)	3
(+) Unique Geological/ Topographical Formations	High(3) *Med.(2) Low(1)	2
(+) Buffer/Borderzone	*High(3) Med.(2) Low(1)	3
(+) Relative Size	Large(3) Med.(2) *Sma.(1)	1
(+) Relative Uniqueness	*Rare(3) Med.(2) Com.(1)	3
(+) Soil Type	397(3) *497,597, & 697 (2)	797 & 997 (1) 2

General Health Index (\bar{X}): 2.6

COMMENTS:

This is a tiny but healthy saltmarsh with approximately 50% intertidal and 50% high marsh. Being so close to the influence of ocean tides and storm surges, it is remarkable that this marsh is doing so well.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM016

LOCATION: (Photo 1-22) Fairhill Swamp, RY

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	High(1) *Med.(2)	Low(3) 2
(-) Indicator Species Re: High Saline Conditions	High(1) Med.(2) *	Low(3) 2.5
(-) Borderzone/Freshwater Species Encroachment	High(1) Med.(2) *	Low(3) 3
(-) Obstruct./Restrict.	High(1) *Med.(2)	Low(3) 2
(+) Unique Geological/ Topographical Formations	High(3) * Med.(2)	Low(1) 2.5
(+) Buffer/Borderzone	High(3) *Med.(2)	Low(1) 2
(+) Relative Size	Large(3) *Med.(2)	Sma.(1) 2
(+) Relative Uniqueness	Rare(3) *Med.(2)	Com.(1) 2
(+) Soil Type	397(3) * 497,597, & 697 (2)	797 & 997 (1) 2.75

General Health Index (\bar{X}): 2.3

COMMENTS:

An important marsh due to the high number of marsh islands and the visible presence of 3000-year-old cedar stumps. This is the largest contiguous marsh area north of Hampton-Seabrook in New Hampshire.

- (A) Has been highly impacted by all terrain vehicles. Already water is being trapped in depressions caused by the wheels, leading to expansion of rotten spots/panne areas. *Ruppia maritima* is present in pond holes. This area is a rich wildlife/birding area.

(SM016 Cont.)

- (B) More all-terrain vehicle tracks. This area is exceptionally thick with mosquitoes. A number of short *Spartina alterniflora* pannes.
- (C) Area rich in wildlife. Raccoon, fox and deer sign. 20+ mallards and a number of egrets sighted feeding in these large pannes.

Much of the drainage problems can be attributed to mosquito ditch levees.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM018
 LOCATION: (Photo 1-20) Wallis Sands, RY

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	High(1) *Med.(2)	Low(3) 2
(-) Indicator Species Re: High Saline Conditions	High(1) Med.(2)	*Low(3) 3
(-) Borderzone/Freshwater Species Encroachment	High(1) *Med.(2)	Low(3) 2
(-) Obstruct./Restrict..	*High(1) Med.(2)	Low(3) 1
(+) Unique Geological/ Topographical Formations	*High(3) Med.(2)	Low(1) 3
(+) Buffer/Borderzone	High(3) Med.(2)	*Low(1) 1
(+) Relative Size	Large(3) Med.(2)	*Sma.(1) 1
(+) Relative Uniqueness	Rare(3) Med.(2)	*Com.(1) 1
(+) Soil Type	*397(3) 497,597, & 697 (2) 797 & 997 (1) 3	

General Health Index (\bar{X}): 1.9

COMMENTS:

This area is becoming a freshwater/tidal system. It has a large deep pond hole which allows for survival of fauna brought in by the highest spring tides. Potential for restoration is high. Must alter culverts running under Route 1A to provide better communication with SM023. Also must direct parking lot (Wallis Sands State Beach) runoff away from SM018.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM019

LOCATION: (Photo 1-22) Marsh Road Pond, RY

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	High(1) Med.(2) Low(3)	N/A
(-) Indicator Species Re: High Saline Conditions	High(1) Med.(2) Low(3)	N/A
(-) Borderzone/Freshwater Species Encroachment	High(1) *Med.(2) Low(3)	1.5
(-) Obstruct./Restrict.	High(1) *Med.(2) Low(3)	2
(+) Unique Geological/Topographical Formations	*High(3) Med.(2) Low(1)	3
(+) Buffer/Borderzone	*High(3) Med.(2) Low(1)	3
(+) Relative Size	Large(3) Med.(2) *Sma.(1)	1
(+) Relative Uniqueness	*Rare(3) Med.(2) Com.(1)	3
(+) Soil Type	397(3) *497, 597, 797 & 697 (2) 997 (1)	2

General Health Index (\bar{X}): 2.2

COMMENTS:

East Rye pond is essentially a freshwater system. The major restriction to flow is the culvert going under Parsons Road. However, in this case the restriction is helping maintain the freshwater habitat in the pond. Excellent bordering area. Though soils classified as Terric Sulfihemists, may be closer to a Sulfihemist; surface soil materials low in salt.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM020
 LOCATION: (Photo 1-22) East of Marsh Road Pond, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	*High(1)	Med.(2)	Low(3)	1
(-) Indicator Species Re: High Saline Conditions	*High(1)	Med.(2)	Low(3)	1
(-) Borderzone/Freshwater Species Encroachment	*High(1)	Med.(2)	Low(3)	1
(-) Obstruct./Restrict.	*High(1)	Med.(2)	Low(3)	1
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med.(2)	*Low(1)	1
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	*Med.(2)	Com.(1)	2
(+) Soil Type	397(3)	497,597, & 697 (2)	*797 & 997 (1)	1

General Health Index (\bar{X}): 1.1

COMMENTS:

Highly impacted system. Culvert under Marsh Road is blocked leaving little, if any, communication with main marsh system (SM023). *Typha* over-running site creating a stagnant system. High mosquito breeding potential. This roadway has been known to flood (1978).

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM021

LOCATION: (Photo 2-24) Sheafe's Point, RY

	SUBJECT		SCORE		TOTAL
(-)	Pannes/Rotten Spots	High(1)	Med. (2)	*Low(3)	3
(-)	Indicator Species Re: High Saline Conditions	High(1)	Med. (2)	*Low(3)	3
(-)	Borderzone/Freshwater Species Encroachment	High(1)	*Med. (2)	Low(3)	2
(-)	Obstruct./Restrict.	High(1)	Med. (2)	*Low(3)	3
(+)	Unique Geological/ Topographical Formations	High(3)	*Med. (2)	Low(1)	2
(+)	Buffer/Borderzone	High(3)	*Med. (2)	Low(1)	2
(+)	Relative Size	Large(3)	Med. (2)	*Sma. (1)	1
(+)	Relative Uniqueness	Rare(3)	Med. (2)	* Com. (1)	1.5
(+)	Soil Type	*397(3)	497, 597, & 697 (2)	797 & 997 (1)	3

General Health Index (\bar{X}): 2.3

COMMENTS:

This is a narrow band of healthy high marsh at the mouth of Witch's Creek, dominated by *Spartina patens* and *Juncus gerardi*, both interspersed and in pure stands. Other common species: *Distichlis spicata*, *Puccinellia maritima*, *Plantago juncoides* and *oliganthos*, *Solidago sempervirens*.

Presence of golf course provides some buffer from disturbance, but may be contributing to encroachment of freshwater herbaceous species.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM022

LOCATION: (Photo 1-22) North West end of Parsons Creek Marsh, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	*High(1)	Med. (2)	Low(3)	1
(-) Indicator Species Re: High Saline Conditions	High(1)	Med. (2)	*Low(3)	3
(-) Borderzone/Freshwater Species Encroachment	*High(1)	Med. (2)	Low(3)	1
(-) Obstruct./Restrict.	*High(1)	Med. (2)	Low(3)	1
(+) Unique Geological/ Topographical Formations	High(3)	Med. (2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	*Med. (2)	Low(1)	2
(+) Relative Size	Large(3)	*Med. (2)	Sma. (1)	2
(+) Relative Uniqueness	Rare(3)	*Med. (2)	Com. (1)	2
(+) Soil Type	397(3)	*497,597, & 697 (2)	797 & 997 (1)	2

General Health Index (\bar{X}): 1.7

COMMENTS:

This section of the Parsons Creek Marsh is showing definite signs of impact, caused by a series of tidal restrictions along the drainage. The area is changing toward a freshwater tidal system with stands of *Typha* evident. Though loosestrife is not present at this site, it is found in SM023 and if the species migrates into MS022, it will quickly take over.

For further discussion, see Appendix Section 5.3.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM023

LOCATION: (Photo 1-20) Parsons Creek Marsh, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	*High(1)	Med.(2)	Low(3)	1
(-) Indicator Species Re: High Saline Conditions	*High(1)	Med.(2)	Low(3)	1
(-) Borderzone/Freshwater Species Encroachment	High(1)	*Med.(2)	Low(3)	2
(-) Obstruct./Restrict.	*High(1)	Med.(2)	Low(3)	1
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med.(2)	*Low(1)	1
(+) Relative Size	Large(3)	*Med.(2)	Sma.(1)	2
(+) Relative Uniqueness	Rare(3)	*Med.(2)	Com.(1)	2
(+) Soil Type	*397(3)	497, 597, & 697 (2)	797 & 997 (1)	3

General Health Index (\bar{X}): 1.4

COMMENTS:

This marsh is showing definite signs of impact from tidal restrictions along the creek drainage. Large areas of pannes/rotten spots and the proliferation of *Salicornia* and short forms of *Spartina alterniflora* indicate inadequate flushing and poor drainage. Construction along Route 1A and Wallis Road has contributed to the marsh's condition.

For further discussion, see Appendix Section 5.3.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM024

LOCATION: (Photo 1-20) West of Brackett Road at Massacre Marsh, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	Med. (2)	*Low(3)	3
(-) Indicator Species Re: High Saline Conditions	High(1)	Med. (2)	*Low(3)	3
(-) Borderzone/Freshwater Species Encroachment	High(1)	*Med. (2)	Low(3)	2
(-) Obstruct./Restrict.	High(1)	*Med. (2)	Low(3)	2
(+) Unique Geological/ Topographical Formations	High(3)	Med. (2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	*Med. (2)	Low(1)	2
(+) Relative Size	Large(3)	Med. (2)	*Sma. (1)	1
(+) Relative Uniqueness	Rare(3)	*Med. (2)	Com. (1)	2
(+) Soil Type	*397(3)	497,597, & 697 (2)	797 & 997 (1)	3

General Health Index (\bar{X}): 2.1

COMMENTS:

Culvert under Brackett Road is restricting tidal flow and spring runoff to some extent. Soil is classified 397; however from soundings taken, it appears that SM024 is approaching the upland edge of the Massacre Marsh tidal system. This site has good potential for restoration if culvert is enlarged and if obstructions at Concord Point are removed.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM025

LOCATION: (Photo 1-20) Massacre Marsh, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	Med.(2) *	Low(3)	2.5
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2) *	Low(3)	2.5
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)	*Low(3)	3
(-) Obstruct./Restrict.	High(1)	Med.(2)	*Low(3)	3
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	*Med.(2)	Low(1)	2
(+) Relative Size	Large(3)	*Med.(2)	Sma.(1)	2
(+) Relative Uniqueness	Rare(3)	*Med.(2)	Com.(1)	2
(+) Soil Type	*397(3)	497, 597, & 697 (2)	797 & 997 (1)	3

General Health Index (\bar{X}): 2.3

COMMENTS:

Area (A) in western section of SM025 is showing signs of impact. It appears that water during the higher spring tides is trapped behind the levees of the mosquito ditching. The lower part of this drainage is known as "Stinky Creek". The causes for the odor are localized at Concord point.

For further discussion, see Appendix Section 5.3.

(A), (B), (C), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM026

LOCATION: (Photo 1-20) South of Massacre Marsh, RY

	SUBJECT	SCORE		TOTAL
(-)	Pannes/Rotten Spots	High(1)	Med.(2)	*Low(3) 3
(-)	Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	*Low(3) 3
(-)	Borderzone/Freshwater Species Encroachment	*High(1)	Med.(2)	Low(3) 1
(-)	Obstruct./Restrict.	*High(1)	Med.(2)	Low(3) 1
(+)	Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1) 1
(+)	Buffer/Borderzone	High(3)	Med.(2)	*Low(1) 1
(+)	Relative Size	Large(3)	Med.(2)	*Sma.(1) 1
(+)	Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1) 1
(+)	Soil Type	397(3)	*497, 597, & 697 (2)	797 & 997 (1) 2

General Health Index (\bar{X}): 1.6

COMMENTS:

(Photo interpretation only)

There appears to be a blockage or constriction between SM025 and SM026. Mosquito ditching and soil type indicate an impacted salt marsh. The area has changed towards a shrub-marsh with what appears to be *Typha* and/or *Phragmites* stands. The hydrology is well on its way to a freshwater-tidal system.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM027

LOCATION: (Photo 1-18) Dredge spoils site West of Rye Harbor, NY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	Med.(2)	Low(3)	N/A
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	Low(3)	N/A
(-) Borderzone/Freshwater Species Encroachment	*High(1)	Med.(2)	Low(3)	1
(-) Obstruct./Restrict.	*High(1)	Med.(2)	Low(3)	1
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	Low(1)	N/A
(+) Buffer/Borderzone	High(3)	Med.(2)	Low(1)	N/A
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	Med.(2)	Com.(1)	N/A
(+) Soil Type	397(3)	497, 597, & 697 (2)	797 & 997 (1)	0 (dredge spoils)

General Health Index (\bar{X}): .75

COMMENTS:

Zero chance of restoration

This area can no longer be considered a salt marsh system. Dredge spoils deposited at this site have killed all high marsh vegetation and compressed the peat. A *Phragmites* - *Typha* - sedge system has replaced the once viable sedge tidal system. The area is surrounded with a berm to contain runoff of leachate from dredge spoils. The berm acts to trap freshwater and restrict tidal flow into this site.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM028

LOCATION: (Photo 1-18) South of Rye Harbor, NY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	*Med.(2)	Low(3)	2
(-) Indicator Species Re: High Saline Conditions	High(1)	*Med.(2)	Low(3)	2
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)	*Low(3)	3
(-) Obstruct./Restrict.	High(1)	Med.(2)	* Low(3)	2.5
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med.(2)	*Low(1)	1
(+) Relative Size	Large(3)	*Med.(2)	Sma.(1)	2
(+) Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+) Soil Type	*397(3)	497,597, & 697 (2)	797 & 997 (1)	3

General Health Index (\bar{X}): 1.9

COMMENTS:

High tides normally saturate most of this system, but drainage is inhibited around the perimeter and water is trapped by mosquito levees.

Marsh shore birds (egrets, herons, plovers, ducks and an Ibis) seen in vicinity of pannes/sandholes, indicating these provide a good food source - at least during the spring and early summer.

For further discussion, see Appendix Section 5.3.

(SM028 Cont.)

- (A) Fill may have been placed in marsh in the southwest corner
Deep panne present enclosed by levees.
- (B) Many small shallow pannes. Seems to be most impacted section of
this marsh.

(A), (B), (C), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM029

LOCATION: (Photo 1-18) Awcomin Marsh, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	Med.(2) *	Low(3)	2.5
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2) *	Low(3)	2.5
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)	*Low(3)	3
(-) Obstruct./Restrict.	High(1)	Med.(2)	*Low(3)	3
(+) Unique Geological/ Topographical Formations	High(3)	*Med.(2)	Low(1)	2
(+) Buffer/Borderzone	High(3)	*Med.(2)	Low(1)	2
(+) Relative Size	Large(3)	*Med.(2)	Sma.(1)	2
(+) Relative Uniqueness	Rare(3)	*Med.(2)	Com.(1)	2
(+) Soil Type	397(3) *	497, 597, & 697 (2)	797 & 997 (1)	2.5
<hr/>				
General Health Index (\bar{X}):				2.6

COMMENTS:

A number of bedrock and/or till islands associated with this system provide good protective habitat for animal and bird species. This marsh has a variety of peat types.

Due to work done to contain the dredge spoil runoff, the area behind SM027 has been cut off from the tidal ebb and flow. *Phragmites* has invaded this site creating a stagnant area that may contribute to the local mosquito problem.

(SM029 Cont.)

- (A) *Salicornia*, short form of *Spartina alterniflora* and *Distichlis* were present, evidence that recent high tide inundated and flooded pannes in this area.
- (B) Large pond progressing toward freshwater tidal system. *Phragmites* and *Typha* around ponds.
- (C) Slumping of creek banks; stones in stream restricting tidal ebb and flow.
- (D) Very large area of shallow pannes with the short form of *Spartina alterniflora* in evidence. Many of the mosquito ditches are blocked due to slumping.

List of wildlife or wildlife sign seen:

Egret
Kingfisher
Bittern
Hawk
Crows
Ducks (mallards and black)
Fox
Raccoon

(A), (B), (C), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM031

LOCATION: (Photo 1-18) Between Rye Harbor and Route 1, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	*High(1)	Med. (2)	Low(3)	1
(-) Indicator Species Re: High Saline Conditions	High(1)	Med. (2)	*Low(3)	3
(-) Borderzone/Freshwater Species Encroachment	*High(1)	Med. (2)	Low(3)	1
(-) Obstruct./Restrict.	*High(1)	Med. (2)	Low(3)	1
(+) Unique Geological/ Topographical Formations	High(3)	Med. (2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med. (2)	*Low(1)	1
(+) Relative Size	Large(3)	Med. (2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	Med. (2)	*Com.(1)	1
(+) Soil Type	397(3)	497, 597, & 697 (2)	797 & 997 (1)	0 (dredge spoils)

General Health Index (\bar{X}): 1.1

COMMENTS:

This is an isolated pocket of marsh >80% impacted. Soil soundings indicate dredge spoils in northwest with increasing peat layer toward the southeast. Dr. Richardson (NHSWB) states that dredge spoils were deposited here, thus explaining the berm surrounding this area. There is no visible means for tidal inundation, though the presence of *Spartina patens* would indicate there must be. The only culvert discovered was a rusted pipe in the southeast corner. The pipe appears

(SM031 Cont.)

to have been installed to allow the dredge spoils leachate to drain back into the harbor. On investigation no outlet end of the pipe could be found on the harbor side.

This small ecotone supports a great diversity of wildlife.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM032
 LOCATION: (Photo 1-18) West of Rye Harbor, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	*Med.(2)	Low(3)	2
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	* Low(3)	2.5
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)	* Low(3)	2.5
(-) Obstruct./Restrict.	High(1)	*Med.(2)	Low(3)	2
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med.(2)	*Low(1)	1
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+) Soil Type	397(3)	* 497, 597, & 697 (2)	797 & 997 (1)	2.5

General Health Index (\bar{X}): 1.7

COMMENTS:

This area is suffering from inadequate drainage.

The culvert under Route 1-A was recently replaced by the highway department. During site visit, waters were reaching the upper portions of this system. However, water backed up at the culvert on the ebbtide.

(A) Freshwater is trapped during spring runoff and salt water after the higher spring tides. The integrity of the high marsh peat has

(SN032 Cont.)

degraded to the point that slumping is quite evident. Such slumping is exacerbating the blockages, thus increasing the trapping of waters.

- (B) This area supports a large shallow panne; field evidence suggests that it partially dried up the previous summer. The primary drainage ditch for the panne has filled in at its western end. Birds were observed feeding on the this panne.

For further discussion, see Appendix Section 5.3.

(A), (B), (C), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM033

LOCATION: (Photo 1-18) West of Locke Road, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	*Med.(2)	Low(3)	2
(-) Indicator Species Re: High Saline Conditions	High(1)	*Med.(2)	Low(3)	2
(-) Borderzone/Freshwater Species Encroachment	High(1)	*Med.(2)	Low(3)	2
(-) Obstruct./Restrict.	High(1)	*Med.(2)	Low(3)	2
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	*Med.(2)	Low(1)	2
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+) Soil Type	397(3)	*497, 597, & 697 (2)	797 & 997 (1)	2

General Health Index (\bar{X}): 1.6

COMMENTS:

A large encroachment of border zone species in southwest corner of this system, primarily *Typha* and *Phragmites*. Extensive "rotten spots" bordering private drive crossing marsh. There is evidence that a recent high spring tide has inundated this system.

This area receives inadequate tidal flushing for much of the year. The stream entering from the southwest floods the area with freshwater. The tidal energy coming up the drainage is not great enough to offset this freshwater inundation from the upland.

(SM033 Cont.)

Tidal restrictions along the creek drainage have contributed to the restricted tidal ebb and flow. The building of the Pilot House Restaurant and its adjoining parking lot may be a causal factor.

For further discussion, see Appendix Section 5.3.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM034

LOCATION: (Photos 1-16, 1-18) West of Locke Road, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	*Med.(2)	Low(3)	2
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	*Low(3)	3
(-) Borderzone/Freshwater Species Encroachment	*High(1)	Med.(2)	Low(3)	1
(-) Obstruct./Restrict.	*High(1)	Med.(2)	Low(3)	1
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	*Med.(2)	Low(1)	2
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+) Soil Type	397(3)	*497, 597, & 697 (2)	797 & 997 (1)	2

General Health Index (\bar{X}): 1.6

COMMENTS:

Private road crossing the marsh has led to the deterioration of this system by cutting off communication between SM033 and SM034. The culvert constructed is inadequate to allow proper flushing of the high marsh. Consequently, border zone species have encroached to within 50 feet of the tidal channel at the eastern end of this wetland. There are rotten spots present east of the drive, trapping runoff from the road.

For further discussion, see Appendix Section 5.3.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM036

LOCATION: (Photo 1-16) East of Route 1 at Straw Point, RY

	SUBJECT		SCORE		TOTAL
(-)	Pannes/Rotten Spots	High(1)	*Med.(2)	Low(3)	2
(-)	Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	*Low(3)	3
(-)	Borderzone/Freshwater Species Encroachment	*High(1)	Med.(2)	Low(3)	1
(-)	Obstruct./Restrict.	*High(1)	Med.(2)	Low(3)	1
(+)	Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+)	Buffer/Borderzone	High(3)	Med.(2)	*Low(1)	1
(+)	Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+)	Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+)	Soil Type	397(3)	*497,597, & 697 (2)	797 & 997 (1)	2

General Health Index (\bar{X}): 1.6

COMMENTS:

Sounding showed 6 feet of Terric Sulfihemists peat. The flood tides are not getting into this area because the culvert into SM036 and SM034 is inadequate and there are other obstructions along the drainage. Division of the main channel (parallelling Route 1A) also has reduced the amount of tidal waters reaching this system.

This is a highly impacted system with over 85% of the original high marsh occupied by *Typha*. One panne in the southwest corner shows

(SM036 Cont.)

that the highest of spring tides will make it into this marsh. Surrounding the panne were small patches of *Spartina patens* and larger areas of *Distichlis spicata*. The panne and connecting mosquito ditch are experiencing the onset of anaerobic conditions. This area has a very high odor and mosquito potential.

For further discussion, see Appendix Section 5.3.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM038

LOCATION: (Photo 1-14) North of Philbrick Pond, RY

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	*High(1)	Med.(2)	Low(3)	1
(-) Indicator Species Re: High Saline Conditions	*High(1)	Med.(2)	Low(3)	1
(-) Borderzone/Freshwater Species Encroachment	High(1) *	Med.(2)	Low(3)	1.5
(-) Obstruct./Restrict.	High(1) *	Med.(2)	Low(3)	1.5
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med.(2)	*Low(1)	1
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	*Med.(2)	Com.(1)	2
(+) Soil Type	397(3)	*497, 597, & 697 (2)	797 & 997 (1)	2

General Health Index (\bar{X}): 1.3

COMMENTS:

Evidence of recent tidal inundation. Encroaching stands of *Lythrum*, *Phragmites* and *Typha* around the perimeter.

Area (A) is devoid of *Spartina patens* and is covered with *Salicornia*. This area appears to trap saline waters during the higher spring tides. As the water evaporates, it creates hyper-saline conditions, killing off the high marsh vegetation, permitting only *Salicornia* to survive.

(SM038 Cont.)

Area (B) is cut off from tidal flooding by an old trolley bed that traverses the marsh from north to south. There is very little evidence of high marsh vegetation. There is *Typha* and some *Lythrum* and an extensive area of panne formation. This area floods from runoff coming down the stream and from adjacent developed areas. This influx of fresh water, without the mitigating effect of daily tidal flooding, has caused area B to change toward a freshwater system.

For further discussion, see Appendix Section 5.3.

(A), (B), (C), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM039

LOCATION: (Photo 1-14) Philbrick Pond, NH

	SUBJECT		SCORE		TOTAL
(-)	Pannes/Rotten Spots	*High(1)	Med. (2)	Low(3)	1
(-)	Indicator Species Re: High Saline Conditions	*High(1)	Med. (2)	Low(3)	1
(-)	Borderzone/Freshwater Species Encroachment	High(1)	Med. (2) *	Low(3)	2.5
(-)	Obstruct./Restrict.	*High(1)	Med. (2)	Low(3)	1
(+)	Unique Geological/ Topographical Formations	High(3)	Med. (2)	*Low(1)	1
(+)	Buffer/Borderzone	High(3)	Med. (2) *	Low(1)	1.5
(+)	Relative Size	Large(3)	Med. (2) *	Sma. (1)	1.5
(+)	Relative Uniqueness	Rare(3)	Med. (2) *	Com. (1)	1.5
(+)	Soil Type	397(3) *	497, 597, & 697 (2)	797 & 997 (1)	2.5
General Health Index (\bar{X}):					1.5

COMMENTS:

This area is greater than 90% impacted. The system is suffering from lack of proper drainage. The mosquito ditch levees are trapping water during the higher spring tides. Standing water has led to rotting and subsidence of the marsh peat. These panne areas support bluegreen algae, mosquitoes, and other insects. Small fish and crustaceans can be observed in the deeper panne areas. Many shore birds and waterfowl were seen frequenting this area. This marsh is definitely changing to a highly unproductive system.

For further discussion, see Appendix Section 5.3.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM041

LOCATION: (Photo 1-12) Little River Swamp, NH

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	*Med. (2)	Low(3)	2
(-) Indicator Species Re: High Saline Conditions	High(1)	Med. (2)	*Low(3)	3
(-) Borderzone/Freshwater Species Encroachment	*High(1)	Med. (2)	Low(3)	1
(-) Obstruct./Restrict.	*High(1)	Med. (2)	Low(3)	1
(+) Unique Geological/ Topographical Formations	High(3)	Med. (2)	* Low(1)	1.5
(+) Buffer/Borderzone	High(3)	*Med. (2)	Low(1)	2
(+) Relative Size	Large(3)	*Med. (2)	Sma. (1)	2
(+) Relative Uniqueness	Rare(3)	Med. (2)	* Com. (1)	1.5
(+) Soil Type	397(3)	* 497, 597, & 697 (2)	797 & 997 (1)	2.5

General Health Index (\bar{X}): 1.8

COMMENTS:

More than 80% of the original tidal marsh has been severely impacted. Restrictions have reduced tidal flushing dramatically, and rerouting of the main channel from its original egress in the south (A) to a dug ditch in the north (B), has shifted the ecology of the system. The original mouth of the tidal system has now become isolated above the reach of the tidal influence. Border zone species are prevalent, with *Lythrum salicaria* in large abundance.

(SM041 Cont.)

The section south of Huckleberry Lane (C) is divided by an east-west dike, south of which grows a mixture of loosestrife, cattails and sedges, and north of which is a dense stand of loosestrife.

The section north of Huckleberry Lane (D) contains a small, viable but isolated high marsh (*Spartina patens*) in center and a small patch of *Spartina patens* and *Distichlis spicata* surrounded by *Phragmites* near Route 1A. Cattails are present in the southern part of this section and loosestrife is scattered throughout. The area will soon be taken over by loosestrife if nothing is done to improve the drainage.

For further discussion, see Appendix Section 5.3.

(A), (B), (C), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM044
 LOCATION: (Photo 1-10) Meadow Pond, HA

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	*Med.(2)	Low(3)	2
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	*Low(3)	3
(-) Borderzone/Freshwater Species Encroachment	*High(1)	Med.(2)	Low(3)	1
(-) Obstruct./Restrict.	*High(1)	Med.(2)	Low(3)	1
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med.(2)	*Low(1)	1
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	*Med.(2)	Com.(1)	2
(+) Soil Type	397(3)	497,597, & 697 (2)	797 & *997 (1)	1
General Health Index (\bar{X}):				1.4

COMMENTS:

(At low tide, waters exiting Meadow Pond were at 4% salinity (15°C); at the north end salinity was 0% (16°C)).

Meadow Pond is an excellent example of a transition from tidal marsh in the south to a freshwater-tidal system in the north, though the saltmarsh has been impacted along the border zone which is under

(SM044 Cont.)

development pressure. *Phragmites* dominates the northern border. Cranberry can be found in the wetter areas. This ecotonal area is excellent bird/wildlife habitat and should have a greater diversity of species than the tidal marsh proper.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM046

LOCATION: (Photos 1-8, 2-8) Tide Mill Creek, North of Route 51, HA

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	Med.(2)	* Low(3)	2.5
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	* Low(3)	2.5
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)	*Low(3)	3
(-) Obstruct./Restrict.	High(1)	Med.(2)	*Low(3)	3
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med.(2)	*Low(1)	1
(+) Relative Size	Large(3)	*Med.(2)	Sma.(1)	2
(+) Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+) Soil Type	*397(3)	497,597, & 697 (2)	797 & 997 (1)	3

General Health Index (\bar{X}): 2.1

COMMENTS:

This is generally a healthy marsh. There are a number of deeper pond holes without rotten spots. Unfortunately, the border zone continues to suffer from development, particularly along Eel Creek.

For further discussion, see Appendix Section 5.3.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM047

LOCATION: (Photo 1-8) Isolated marshes South of Great Boar's Head, HA

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1) *	Med.(2)	Low(3)	1.5
(-) Indicator Species Re: High Saline Conditions	High(1)	*Med.(2)	Low(3)	2
(-) Borderzone/Freshwater Species Encroachment	High(1)	*Med.(2)	Low(3)	2
(-) Obstruct./Restrict.	*High(1)	Med.(2)	Low(3)	1
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med.(2)	*Low(1)	1
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	*Med.(2)	Com.(1)	2
(+) Soil Type	397(3)	497,597, & 697 (2)	797 & 997 (1)	?

General Health Index (\bar{X}): 1.6

COMMENTS:

Even though these systems are highly impacted, they serve as "natural areas" in this highly developed location. Also, they help mitigate flooding and storm drainage.

- (A) seems the healthiest of the 3 sites.
- (B) is being heavily impacted by surrounding residential area. *Phragmites* is well established in the eastern section of this marsh.

(SM047 Cont.)

(C) has encroachment of border zone species, but a small healthy section of high marsh.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM051

LOCATION: (Photo 3-8) North of Route 51, East and West of Landing Road,
HA

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	Med.(2)	*Low(3)	3
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	*Low(3)	3
(-) Borderzone/Freshwater Species Encroachment	High(1)	*Med.(2)	Low(3)	2
(-) Obstruct./Restrict.	High(1)	*Med.(2)	Low(3)	2
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med.(2)	*Low(1)	1
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+) Soil Type	397(3)	*497,597, & 697 (2)	797 & 997 (1)	2

General Health Index (\bar{X}): 1.8

COMMENTS:

- (A) Approximately 50% is occupied by border zone species including *Typha*, *Phragmites*, and *Juncus*. Center of area a mixture of *Spartina patens*, black grass, arrow-grass and *Distichlis spicata*. Western end of high marsh area has a short *Spartina alterniflora* panne.
- (B) Similar to (A) but encroachment of border zone species is not as pronounced.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM054

LOCATION: (Photo 3-8) Junction Route 1 and Route 51, HA

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	*Med.(2)	Low(3)	2
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	*Low(3)	3
(-) Borderzone/Freshwater Species Encroachment	*High(1)	Med.(2)	Low(3)	1
(-) Obstruct./Restrict.	*High(1)	Med.(2)	Low(3)	1
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med.(2)	*Low(1)	1
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+) Soil Type	397(3)	*497,597, & 697 (2)	797 & 997 (1)	2

General Health Index (\bar{X}): 1.4

COMMENTS:

This area has been highly impacted and isolated from the main marsh, primarily because of road construction.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM056

LOCATION: (Photo 3-8) South of Route 51, East of Landing Road, HA

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	*High(1)	Med. (2)	Low(3)	1
(-) Indicator Species Re: High Saline Conditions	High(1) *	Med. (2)	Low(3)	1.5
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med. (2)	*Low(3)	3
(-) Obstruct./Restrict.	High(1) *	Med. (2)	Low(3)	1.5
(+) Unique Geological/ Topographical Formations	High(3)	Med. (2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med. (2)	*Low(1)	1
(+) Relative Size	Large(3)	Med. (2)	*Sma. (1)	1
(+) Relative Uniqueness	Rare(3)	Med. (2)	*Com. (1)	1
(+) Soil Type	397(3) *	497, 597, & 697 (2)	797 & 997 (1)	2.5

General Health Index (\bar{X}): 1.5

COMMENTS:

Large open-water pannes, noted by Richardson (1982) as good birding area. No wildlife in evidence during site visit. These pannes are surrounded by a number of short *Spartina alterniflora* panne areas - a typical "rotten spot" formation. Drainage is restricted apparently because of a combination of mosquito ditch levees, two roads, and old fences. There is a small stand of *Phragmites* in the northeast corner of the area; *Typha* is bordering the eastern edge.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM057
 LOCATION: (Photo 3-10) Drakes River between Drakeside Road and Route 51, HA

	SUBJECT	SCORE	TOTAL
(-)	Pannes/Rotten Spots	High(1)	Med.(2) *Low(3) 3
(-)	Indicator Species Re: High Saline Conditions	High(1)	Med.(2) *Low(3) 3
(-)	Borderzone/Freshwater Species Encroachment	High(1)	Med.(2) * Low(3) 2.5
(-)	Obstruct./Restrict.	High(1)	*Med.(2) Low(3) 2
(+)	Unique Geological/Topographical Formations	High(3)	Med.(2) *Low(1) 1
(+)	Buffer/Borderzone	High(3)	*Med.(2) Low(1) 2
(+)	Relative Size	Large(3)	Med.(2) *Sma.(1) 1
(+)	Relative Uniqueness	Rare(3)	Med.(2) *Com.(1) 1
(+)	Soil Type	*397(3) & 697 (2)	497,597, 797 & 997 (1) 3
General Health Index (\bar{X}):			2.1

COMMENTS:

This is a healthy piece of marsh though there is evidence of *Phragmites* and *Typha* encroachment. A tide gate is on one of the two culverts passing under Drakeside Road; it serves no useful function. The topography does not suggest a flooding problem, nor is this close to being a fresh water system. The tide gate is just inhibiting the flow and contributing to the encroachment of the border zone species.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM058

LOCATION: (Photos 3-8, 4-8) Taylor River and Drakes River between Route 1 and I95, HA HF

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	*Med.(2)	Low(3)	2
(-) Indicator Species Re: High Saline Conditions	High(1)	*Med.(2)	Low(3)	2
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)	* Low(3)	2.5
(-) Obstruct./Restrict.	High(1)	*Med.(2)	Low(3)	2
(+) Unique Geological/Topographical Formations	High(3)	Med.(2)	* Low(1)	1.5
(+) Buffer/Borderzone	High(3)	* Med.(2)	Low(1)	2.5
(+) Relative Size	Large(3)	*Med.(2)	Sma.(1)	2
(+) Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+) Soil Type	*397(3)	497,597, & 697 (2)	797 & 997 (1)	3

General Health Index (\bar{X}): 2.1

COMMENTS:

Restrictions at the railroad bed and Route 1 have contributed to the lack of tidal flushing of these upper reaches of the marsh. Also the extensive mosquito ditch levees have inhibited adequate drainage. Borderzone species such as *Phragmites* and *Typha* have entered the marsh near the extremities. This area is rich in wildlife sign and birds.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM059

LOCATION: (Photo 3-8) Taylor River between RR tracks and Route 1, HA HF

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	*Med.(2)	Low(3)	2
(-) Indicator Species Re: High Saline Conditions	High(1)	*Med.(2)	Low(3)	2
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)	*Low(3)	3
(-) Obstruct./Restrict.	High(1)	*Med.(2)	Low(3)	2
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	*Med.(2)	Low(1)	2
(+) Relative Size	Large(3)	*Med.(2)	Sma.(1)	2
(+) Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+) Soil Type	*397(3)	497, 597, & 697 (2)	797 & 997 (1)	3

General Health Index (\bar{X}): 2

COMMENTS:

Area behind railroad bed not draining adequately. Opening to south inadequate. As tidal water floods this area, tidal energy is lost at Route 1, causing ponding. On ebb tide, the force of outgoing water is less than the tidal energy coming in, so drainage takes a longer period of time.

- Mosquitoes seemed to be bad compared to other similar areas.
- Vegetation primarily short *Spartina alterniflora*, *Salicornia*

(SM059 cont.)

intermixed with *Spartina patens*. There were a number of "rafted" pieces of marsh peat deposited in this area. The peat was undoubtedly broken off or slumped further down the drainage. As the high tide came in the peat was moved upstream until it reached the Route 1 barrier where it was deposited.

It has been noted by F. Richardson, that this type of area is good for birding. This seems to be correct, based on large concentration of egrets and herons.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM061
 LOCATION: (Photo 3-6) Hampton Falls River, HF

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	High(1)	Med.(2)
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2)
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)
(-) Obstruct./Restrict.	High(1)	Med.(2)
(+) Unique Geological/Topographical Formations	High(3)	Med.(2)
(+) Buffer/Borderzone	High(3)	*Med.(2)
(+) Relative Size	Large(3)	*Med.(2)
(+) Relative Uniqueness	Rare(3)	Med.(2)
(+) Soil Type	*397(3)	497, 597, & 697 (2) 797 & 997 (1) 3

General Health Index (\bar{X}): 2.3

COMMENTS:

A relatively healthy system; culvert under railroad tracks is adequate in size.

- (A) Spike grass and short *Spartina alterniflora* with patches of black grass and arrow-grass. Predominant vegetation *Spartina patens*. Old mosquito ditch levees along with some slumping has contributed to capturing some water; however, this is not very extensive. Hawk, heron(s), egrets, deer sign.

(SM061 Cont.)

(B) Dam at pond west of 1A. Some tidal restrictions in creek before dam. Borderzones have stands of *Typha* and *Lythrum*.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM062

LOCATION: (Photo 3-6) Browns River, HF SE

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	High(1) * Med.(2)	Low(3) 1.5
(-) Indicator Species Re: High Saline Conditions	High(1) * Med.(2)	Low(3) 1.5
(-) Borderzone/Freshwater Species Encroachment	High(1) Med.(2) *	Low(3) 2.5
(-) Obstruct./Restrict.	High(1) *Med.(2)	Low(3) 2
(+) Unique Geological/ Topographical Formations	High(3) Med.(2)	*Low(1) 1
(+) Buffer/Borderzone	*High(3) Med.(2)	Low(1) 3
(+) Relative Size	Large(3) *Med.(2)	Sma.(1) 2
(+) Relative Uniqueness	Rare(3) Med.(2)	*Com.(1) 1
(+) Soil Type	*397(3) 497,597, & 697 (2)	797 & 997 (1) 3
General Health Index (\bar{X}):		1.9

COMMENTS:

Culvert under railroad trestle seems undersized; drainage inadequate. Some circular deep pond holes. Extensive areas of large irregular-shaped pannes surrounded primarily by short *Spartina alterniflora*. Deer sign at edge of marsh.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM063

LOCATION: (Photo 2-4) Cains Brook, West of Causeway Road, SE

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	*High(1) Med.(2) Low(3)	1
(-) Indicator Species Re: High Saline Conditions	High(1) Med.(2) *Low(3)	3
(-) Borderzone/Freshwater Species Encroachment	*High(1) Med.(2) Low(3)	1
(-) Obstruct./Restrict.	*High(1) Med.(2) Low(3)	1
(+) Unique Geological/ Topographical Formations	High(3) Med.(2) *Low(1)	1
(+) Buffer/Borderzone	High(3) *Med.(2) Low(1)	2
(+) Relative Size	Large(3) *Med.(2) Sma.(1)	2
(+) Relative Uniqueness	Rare(3) Med.(2) *Com.(1)	1
(+) Soil Type	397(3) 497,597, & 697 (2) *797 & 997 (1)	1

General Health Index (\bar{X}): 1.4

COMMENTS:

Major restriction is under private road. Damming caused by stones, logs and stumps, causing ponding of water to west.

- (A) *Spartina patens* with seaside goldenrod and sedges near channel. Sparse stand of short *Spartina alterniflora*. The area is changing toward a freshwater tidal regime. Also present was silver weed and *Typha* (on the border).

(SM063 Cont.)

- (B) Large areas of *Juncus*. Limit of salt marsh vegetation.
- (C) Tidal to freshwater.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM064

LOCATION: (Photo 2-4) Cains Brook, East of Causeway Road, SE

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1)	Med.(2)	*Low(3)	3
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2)	*Low(3)	3
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2)	*Low(3)	3
(-) Obstruct./Restrict.	High(1)	Med.(2)	*Low(3)	3
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	*Med.(2)	Low(1)	2
(+) Relative Size	Large(3)	*Med.(2)	Sma.(1)	2
(+) Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+) Soil Type	*397(3)	497,597, & 697 (2)	797 & 997 (1)	3

General Health Index (\bar{X}): 2.3

COMMENTS:

- (A) Forb pannes dominated by arrow-grass. Some recently dried out pannes with short form of *Spartina alterniflora* with some *Salicornia*. Slumped mosquito ditches seem the main reason for trapped waters in these panne areas. Remainder of marsh mostly *Spartina patens* interspersed with stands of blackgrass.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM065
 LOCATION: (Photos 1-4, 1-6, 1-8; 2-4, 2-6, 2-8; 3-6, 3-8) Hampton/
 Seabrook Estuary, East of RR tracks, HA HF SE

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	High(1)	Med.(2) *Low(3) 3
(-) Indicator Species Re: High Saline Conditions	High(1)	Med.(2) *Low(3) 3
(-) Borderzone/Freshwater Species Encroachment	High(1)	Med.(2) *Low(3) 3
(-) Obstruct./Restrict.	High(1)	Med.(2) *Low(3) 3
(+) Unique Geological/ Topographical Formations	*High(3)	Med.(2) Low(1) 3
(+) Buffer/Borderzone	High(3)	*Med.(2) Low(1) 2
(+) Relative Size	*Large(3)	Med.(2) Sma.(1) 3
(+) Relative Uniqueness	*Rare(3)	Med.(2) Com.(1) 3
(+) Soil Type	*397(3)	497, 597, & 697 (2) 797 & 997 (1) 3

General Health Index (\bar{X}): 2.9

COMMENTS:

This system is New Hampshire's best example of a large productive salt marsh. Saltmarshes SM044-SM067 are all part of this tidal system, totalling about 3,500 acres.

Area along Hampton River behind Hampton Beach is experiencing high impact both from development and all-terrain vehicles along the edge of marsh.

(SM065 Cont.)

- Development of Mills Point and Riverside have adversely affected the marsh in the immediate vicinity.

For further discussion see Appendix Section 5.3.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM066

LOCATION: (Photo 1-2) Between South Main Street and Route 86, SE

SUBJECT		SCORE		TOTAL
(-) Pannes/Rotten Spots	High(1) *	Med.(2)	Low(3)	1.5
(-) Indicator Species Re: High Saline Conditions	High(1)	*Med.(2)	Low(3)	2
(-) Borderzone/Freshwater Species Encroachment	High(1)	*Med.(2)	Low(3)	2
(-) Obstruct./Restrict.	High(1)	*Med.(2)	Low(3)	2
(+) Unique Geological/ Topographical Formations	High(3)	Med.(2)	*Low(1)	1
(+) Buffer/Borderzone	High(3)	Med.(2)	*Low(1)	1
(+) Relative Size	Large(3)	Med.(2)	*Sma.(1)	1
(+) Relative Uniqueness	Rare(3)	Med.(2)	*Com.(1)	1
(+) Soil Type	*397(3)	497,597, & 697 (2)	797 & 997 (1)	3
General Health Index (\bar{X}):				1.6

COMMENTS:

Tidal restriction at point where stream passes under Route 86C.

- (A) Western 25% covered with *Phragmites* and *Typha*. High marsh primarily rotten spots with short form of *Spartina alterniflora*. Fill from recently excavated mosquito ditch has been placed on high marsh. Will act to inhibit tidal flow across surface of marsh, leading to eventual death of *Spartina patens* and further degradation of marsh.

(SM066 Cont.)

(B) Healthy high marsh with small amounts of short form of
Spartina alterniflora. Stones in creek create obstruction
at culvert under South Main St.

(A), (B), etc. refer to locations on wetland maps.

TIDAL MARSH SITE EVALUATION

WETLAND CODE: SM067

LOCATION: (Photo 1-2) South of South Main Street, SE

SUBJECT	SCORE	TOTAL
(-) Pannes/Rotten Spots	*High(1) Med.(2) Low(3)	1
(-) Indicator Species Re: High Saline Conditions	High(1) *Med.(2) Low(3)	2
(-) Borderzone/Freshwater Species Encroachment	High(1) Med.(2) *Low(3)	3
(-) Obstruct./Restrict.	*High(1) Med.(2) Low(3)	1
(+) Unique Geological/ Topographical Formations	High(3) Med.(2) *Low(1)	1
(+) Buffer/Borderzone	High(3) Med.(2) *Low(1)	1
(+) Relative Size	Large(3) Med.(2) *Sma.(1)	1
(+) Relative Uniqueness	Rare(3) Med.(2) *Com.(1)	1
(+) Soil Type	397(3) 497,597, & 697 (2) *797 & 997 (1)	1

General Health Index (\bar{X}): 1.3

COMMENTS:

This marsh has little communication with SM066 or SM065. The large ditch surrounding it was full of standing water at low tide. Even though the marsh itself is highly impacted with extensive rotten spots this may be a good habitat for waterfowl and shorebirds. Dominant species is short form of *Spartina alterniflora*.

Concord Point Drainage, Rye

This drainage includes not only Parsons (SM022, SM023) and Massacre Marsh (SM025) Creeks, but also a number of small isolated pockets of marsh (SM018, SM019, SM020) that communicate via culverts with the main tidal creeks. Table 9 summarizes some of the impacts that have contributed to the marsh's degradation. In 1985, the Town of Rye obtained Coastal Zone Management monies to remove obstructions and restrictions along the course of Parsons Creek. The objective was to increase tidal ebb and flow into the upper reaches of the marsh. In the spring of 1985, work was carried out to: (1) straighten the channel at Concord Point, (2) remove the obstructions in the creek at the site of the old Wallis Road bed and (3) dredge the channel of the creek at the point it passes under Wallis Road.

After this work was completed, field investigations confirmed that tidal inundation had increased in the upper reaches of the marsh, but further analysis is needed to determine the long-term benefit of these actions. Restrictions along the creek remain, and further actions should be taken to continue the removal of these materials (Simpson, 1986). Increased tidal flooding into the higher reaches of the system (including the small isolated pockets) would stem the advancement of the invasive species *Phragmites*, *Typha*, *Lythrum*, *Scirpus*, etc. These border zone plants would gradually die back and the restoration of high marsh species could proceed.

Philbrick Brook Drainage, Rye

The situation in this series of marshes (SM028, SM032, SM033, SM034, SM036) is similar to that described for the Concord Point drainage. Through the years construction of a number of roads has inadvertently choked off the upper reaches of this salt marsh. Each time a road was

TABLE 9. Summary Of Impacts At Parsons Creek Marsh

<u>SITE NAME</u>	<u>LOCATION DESCRIPTION</u>	<u>COMMENTS</u>
Concord Point	East of Route 1-A where "Stinky Creek" empties into the ocean	Grounded barge has shifted stream channel and reduced flow.
Old Wallis Road	South of Wallis Road; looks like a stone wall running through the marsh	Old bridge abutments have fallen into creek restricting ebb and flow of the tide.
Wallis Road	Road running east-west through center of marsh.	Stones, sand, and debris accumulate under and on either side of bridge, impeding ebb and flow of tide.
Red Roof Market Area ("Trash Corner")	Corner of Route 1-A and Wallis Road; also residence to north of Market	Loss of marsh due to placement of gravel-fill over marsh. Fill is being undercut by creek; debris is being used to stabilize bank.
Horse Paddock	North of Red Roof Market, built in major ox-bow of creek	Encroachment onto marsh; organics, nitrogen, etc. finding way into creek waters.
Wallis Sands/Route 1A	Northern end of marsh before junction of 1-A and Parsons Road	Rerouting of 1-A isolated segment of marsh from main drainage system; changing to brackish conditions

added, the movement of salt water through the peat was inhibited. The road beds either replaced the peat or compressed the peat so that subsurface tidal waters could not pass underneath these barriers. Thus, areas of salt marsh that hydrologically communicated with each other are now isolated except for the tidal waters that can move through the culverts under these roadways. A good example is the private drive that was built across the marsh, cutting off SM033 from SM034. The construction of Ocean Boulevard early in this century created a smiliar effect.

In addition to road construction, other activities, such as the development of Rye Harbor and the riprapping of the major creek channels, helped to cut off infiltration of tidal waters into the creek bank peat. Also, near the Pilot House Restaurant, rocks from riprap appear to have fallen into the creek, blocking tidal flow into SM032, SM033, etc. and ultimately reducing the distance the tidal bore can move through the tidal creeks.

Little can be done about the roads already built across the tidal marsh, except to insure that culverts are large enough to allow adequate ebb and flow of the tidal waters. A culvert of adequate size will not cause damming of waters on the ebb tide. The overall health of the system can be improved by removing all rocks and stones along the drainage that either inhibit tidal inundation on the flood tide or restrict draining of the marsh on the ebb tide. Such mitigation activities might precede work on culverts discussed above. In addition, a maintenance schedule should be established for all culverts to insure clear passage of tidal waters.

Golf Course Drainage, (Bass Beach) Rye

This marsh (SM038) is the southern-most saltmarsh in the Town of Rye. The upland stream feeding this area flows from a golf course west of Causeway Road and exits through a culvert under Route 1A into the ocean. Short (1985) states that at one time this drainage entered the Bass Beach Marsh (Philbrick Pond) to the south. An old trolley bed traverses the marsh from north to south approximately 650 feet west of Route 1A. During the site visits there was ample evidence that the tide had entered and inundated the marsh. *Spartina alterniflora* is present for about 150 feet upstream of the Route 1A culvert. *Spartina patens* is prevalent up to 600 feet west of Route 1A. At about 600 feet there is a *Spartina/Typha* interface. *Typha* as well as *Phragmites* and *Lythrum salicaria* are prevalent along the northern and western borders of the marsh. Of particular note is an area in the eastern section of the marsh, close to Route 1A, where a large area is devoid of *Spartina patens*, and is dominated by *Salicornia*.

The area immediately west of the trolley bed is a highly impacted high marsh, with sparse stands of *Spartina*, a great deal of *Typha* and some *Lythrum*. It appears to be flooded by the highest of the yearly tides, but seems quite stagnant most of the year making it prime mosquito breeding habitat. The upland stream has a very organic substrate until approximately 200 feet east of Causeway Road where the bottom substrate is primarily sand and small stones. If the opening through the trolley bed were enlarged and the stream cleared of obstructions, the increased ebb and flow of the tide into this isolated area would not only alleviate the stagnation, but help restore the high marsh vegetation.

A flapper valve, which was presumably attached to the ocean end of the culvert running under Route 1A, now lies (unattached) on the rocks to the south of the pipe opening. Its function was to keep the tidal waters from flooding the marsh; its earlier operation contributed to the marsh's present condition.

The presence of the large area dominated by *Salicornia* indicates that this part of the marsh (closest to Route 1A) is being inundated by saline waters during the higher spring tides. During the summer, tides are not high enough to periodically soak this area; the saltwater that was trapped on the marsh evaporates and creates a hypersaline condition in this section of the marsh. *Spartina* is unable to grow, but the more salt tolerant *Salicornia* appears to thrive.

In order to increase tidal flushing and restore the high marsh vegetation, the pipe now running under Route 1A must be redesigned or enlarged. A second, and more costly, alternative is to install another pipe to the north, running under Route 1A, which would allow greater amounts of salt water to inundate the marsh during a flood tide. The benefits would be both the reestablishment of the high marsh plants and the decline of the border zone species which are now invading the system.

Philbrick Pond, North Hampton

This small tidal system (SM039) is an excellent birding location, partly because of the confluence of a number of small drainages entering the southwest end of Philbrick Pond. The pond's outlet flows under an old trolley bed, and travels by culvert under Route 1A to the ocean.

Spartina alterniflora (tall form) is found along the channel and at the upper end of the pond. The short form of *Spartina alterniflora*, along with *Salicornia*, is found in the rotten spot/panne areas which have dried out. Stands of *Phragmites* are present along the western border of this area. Some loosestrife (*Lythrum salicaria*) appears just upland from the marsh (Short, 1985).

The main problem at Philbrick Pond is a lack of adequate drainage. The levees along the numerous mosquito ditches have created a patchwork of enclosed areas. These areas trap saline water during the higher spring tides. The standing salt water inhibits the growth of *Spartina patens*. As the water evaporates, these pannes are invaded by species of *Salicornia* and the short form of *Spartina alterniflora*, two plants that can withstand high saline conditions.

This is not a stable ecosystem. The size and extent of the pannes have increased rapidly over the last ten years, and could continue to expand (Short, 1985). To restore this area the outflow channel from Philbrick Pond should be enlarged, and the pannes should be drained through ditching. Material excavated from such a ditching operation should be removed from the marsh. Moreover, some of the shallower pannes should be deepened so as to insure survival of fauna brought in on the high tides. If more water is allowed to enter the marsh during the tidal cycles and the drainage restrictions are removed, the outgoing water will flush the channels and re-establish adequate communication with the ocean.

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Little River Marsh, North Hampton and Hampton

Before 1950, Little River Marsh (SM041) had access to the ocean through a channel that flowed under Route 1A at the town line of North Hampton and Hampton. This channel has since been blocked, reducing the marsh's communication with the ocean to one man-made channel to the north, a culvert that runs under Route 1A near the junction with Sea Road.

Spartina patens is in evidence in this marsh, and can be seen as far upstream as Fifield Road. There is one stand of *Spartina alterniflora*. In addition there are stands of *Typha* and *Phragmites* which border this area.

Lythrum salicaria has invaded this system and now covers 60% of the former marsh area (Short, 1985). This invasion of loosestrife occurred after the old channel had been blocked. The prevalence of loosestrife indicates that much of this marsh does not have an adequate flow of tidal waters. The culverts at 1A and under Fifield Road may contribute to the tidal restriction. If these restrictions were reduced and/or if additional ocean access could be secured, tidal flushing would be enhanced. The flushing would curtail the invasion of the loosestrife and encourage the re-establishment of high marsh vegetation, rendering the area a productive tidal marsh.

Hampton-Seabrook Marsh System, Hampton, Hampton Falls and Seabrook

The six to seven thousand acres of tidal wetlands along the coast represent only a small percentage of the total wetlands in the State. It is because of this limited acreage that these systems should be protected as unique and valuable State resources. The Hampton-Seabrook Estuary is the largest contiguous tidal marsh system in New Hampshire, comprising about 3500 acres. Most of these associated tidal wetlands are in good condition though there are outlying areas and isolated pockets that are suffering from developmental pressures and/or manmade constrictions.

A train track on a raised bed traverses the western side of the Hampton-Seabrook marsh. This, together with Route 1 to the west, has resulted in the restriction of tidal ebb and flow. There are a number of areas beyond these restrictions that have extensive panne/rotten spots due to a lack of proper drainage.

The areas bordering the Hampton Beach development (SM065) are showing signs of severe impact. This is due not only to the continued encroachment by construction activities, but also to the fact that the

marsh is so accessible at this location. The high concentration of people during the summer months results in the marsh being trampled.

The Hampton-Seabrook system, overall, should be considered a prime tidal wetland and accorded all appropriate relief from current impacts and protection from further disturbance. For further discussion of Prime Wetland status of this tidal system, see Richardson's (1982) Identification, Documentation and Mapping of Prime Tidal Wetlands In The Town of Hampton, New Hampshire.

6.0 APPENDIX: SAND DUNES, DETAILED RESULTS

6.1 HOW TO USE THE RESULTS

The twelve sand dune areas evaluated in the study area were sampled only for plant species. The plants were listed in the same manner as for wetlands. The computer was used to produce ecological summaries, despite the inappropriateness of wetland data computations for these sandy upland communities. Refer to Section 3.3 for a more complete description of dune ecology, impacts and management.

The following results are useful as representative lists of the plant species occurring at the sites sampled. At the end of each species list is a number between 0 and 1.0 following the label "DUNE: ". This is the computed fraction of the plant abundances from the site which are considered to be dune indicator species (Table 6, section 3.3). This number is 1.000 for a community comprised of only dune species, and 0.000 for a community with no dune species. This fraction gives the user a rough idea of how pure the community is for foredune species (1.00) or how many upland sandy species have taken over for the pioneer dune species (less than 1.00). Numbers less than 1.00 do not imply lower value to the dune ecology. For example, poison ivy, common throughout the inland parts of the state, cannot be considered to be a dune indicator, so its presence lowers the "DUNE" fraction. But it is one of the most useful dune species, according to Dr. Lazell (1976):

"Resplendent in lovely purples, scarlets, russets, ochres, and greens, growing first as a ground trailing vine, then low herbage, then as dense shrubbery, and someday even attaining the character of a small tree, poison ivy is the finest and most wonderful of all our plants. Poison ivy holds the shifting sands; it shades and shelters the birds and animals; its berries richly augment the complex ecological chain; best of all, poison ivy keeps people off the land. It is the trouncing, trampling feet of man that crush and kill the fragile plants of the dunes, and set the sand to blowing mercilessly inland."

6.2 RESULTS TABLES FOR STUDY AREA

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 1-20) Wallis Sands State Beach, jct with Marsh Rd, RY
 DU001 Field Date: 06/04/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
Rosa rugosa	Salt-spray rose	8	0.00	S	1
Rhus typhina	Staghorn sumac	2	0.00	T	2
Prunus maritima	Beach plum	1	0.00	S	3
Crataegus sp.	Hawthorn	3	0.00	T	1
Rhus radicans	Poison ivy	1	0.82	S	2
Solanum dulcamara	Bittersweet	2	0.50	H	0
Euphorbia cyparissias	Cypress spurge	8	0.00	H	0
Juncus tenuis	Path rush	1	0.50	H	0
Agrostis alba	Redtop grass	2	0.82	H	0
Asclepias syriaca	Common milkweed	2	0.50	H	0
Solidago sempervirens	Seaside goldenrod	2	0.82	H	0
Oenothera biennis	Evening primrose	5	0.18	H	0
Senecio sp.	Ragwort	1		H	0
Ammophila breviligulata	Dune grass	50	0.00	H	0
Lathyrus japonicus	Beach pea	12	0.00	H	0
Taraxacum officinale	Dandelion	1	0.50	H	1
Artemesia stelleriana	Dusty miller	6	0.18	H	0
Cakile edentula	Searocket	6	0.18	H	0
Agropyron repens	Quack grass	1	0.00	H	1

WSI: 0.089 WFV: 0.048 BOG: 0.000 SALT: 0.070 DUNE: 0.570
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.07 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.07 NARROW: 0.47 FLOATING: 0.00
 SUBTYPES:NUW

WATERSHED: Beach Dunes

TYPE: Sand Dune Community

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 1-16) Jenness Beach, RY
DU002 Field Date: 06/04/86

Report Date: 06/30/86

Scientific name	Common name	Abun-	Wetl	Type	Food
		dance	Freq		Value
Rosa rugosa	Salt-spray rose	3	0.00	S	1
Lathyrus japonicus	Beach pea	5	0.00	H	0
Ammophila breviligulata	Dune grass	70	0.00	H	0
Solidago sempervirens	Seaside goldenrod	5	0.82	H	0
Bromus tectorum	Cheat grass	25	0.00	H	0
Cakile edentula	Searocket	2	0.18	H	0
Euphorbia cyparissias	Cypress spurge	2	0.00	H	0

WSI: 0.039 WFV: 0.006 BOG: 0.000 SALT: 0.062 DUNE: 0.687
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.02 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.01 NARROW: 0.84 FLOATING: 0.00
 SUBTYPES:NUV

WATERSHED: Beach Dunes TYPE: Sand Dune Community

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 1-12) Plaice Cove, E of Rt1, HA

DU003 Field Date: 06/05/86 Report Date: 06/30/86

Scientific name	Common name	Abun-	Wetl	Type	Food
		dance	Freq		Value
<i>Pinus rigida</i>	Pitch pine	3	0.18	T	3
<i>Lathyrus japonicus</i>	Beach pea	2	0.00	H	0
<i>Rosa rugosa</i>	Salt-spray rose	3	0.00	S	1
<i>Ammophila breviligulata</i>	Dune grass	40	0.00	H	0
<i>Myrica pensylvanica</i>	Bayberry	1	0.50	S	2
<i>Artemisia stelleriana</i>	Dusty miller	1	0.18	H	0
<i>Solidago sempervirens</i>	Seaside goldenrod	2	0.82	H	0

WSI: 0.055 WFV: 0.067 BOG: 0.000 SALT: 0.038 DUNE: 0.903

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.05 COMPACT: 0.01

MARSH SBCL: ROBUST: 0.00 BROADL: 0.00 NARROW: 0.76 FLOATING: 0.00

SUBTYPES:NUV

WATERSHED: Beach Dunes

TYPE: Sand Dune Community

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 1-12) N of Plaice Cove, W of Rt1A, HA
 DU004 Field Date: 06/05/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
<i>Myrica pensylvanica</i>	Bayberry	2	0.50	S	2
<i>Quercus ilicifolia</i>	Bear (scrub) oak	3	0.00	S	4
<i>Prunus maritima</i>	Beach plum	1	0.00	S	3
<i>Pinus rigida</i>	Pitch pine	2	0.18	T	3
<i>Ammophila breviligulata</i>	Dune grass	30	0.00	H	0
<i>Hudsonia tomentosa</i>	Poverty-grass	5	0.00	S	0
Poaceae	Grasses	10		H	1

WSI: 0.031 WFV: 0.165 BOG: 0.000 SALT: 0.000 DUNE: 0.811
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.01 BUSHY: 0.05 COMPACT: 0.13
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.00 NARROW: 0.75 FLOATING: 0.00
 SUBTYPES: CNU

WATERSHED: Beach Dunes TYPE: Sand Dune Community

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 1-6) Hampton Beach State Park, NH
DU005 Field Date: 06/05/86 Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetland Freq	Type	Food Value
<i>Lathyrus japonicus</i>	Beach pea	12	0.00	H	0
<i>Ammophila breviligulata</i>	Dune grass	70	0.00	H	0
<i>Solidago sempervirens</i>	Seaside goldenrod	2	0.82	H	0
<i>Trifolium repens</i>	White clover	2	0.00	H	2

WSI: 0.019 WFV: 0.011 BOG: 0.000 SALT: 0.023 DUNE: 0.837
SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.00 COMPACT: 0.00
MARSH SBCL: ROBUST: 0.00 BROADL: 0.00 NARROW: 0.81 FLOATING: 0.00
SUBTYPES: NV

WATERSHED: Beach Dunes TYPE: Sand Dune Community

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 1-6) S of HA Harbor inlet, W of Rt1A, HA SE
 DU006 Field Date: 06/05/86 Report Date: 06/30/86

Scientific name	Common name	Abun-	Wetl	Type	Food
		dance	Freq		Value
<i>Lathyrus japonicus</i>	Beach pea	10	0.00	H	0
<i>Ammophila breviligulata</i>	Dune grass	40	0.00	H	0
<i>Euphorbia cyparissias</i>	Cypress spurge	1	0.00	H	0
<i>Solidago sempervirens</i>	Seaside goldenrod	3	0.82	H	0

WSI: 0.045 WVF: 0.000 BOG: 0.000 SALT: 0.055 DUNE: 0.796
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.00 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.01 NARROW: 0.74 FLOATING: 0.00
 SUBTYPES: NV

WATERSHED: Beach Dunes TYPE: Sand Dune Community

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 1-6) Beckmans Point, E of Rt1A, SE

DU007

Field Date: 06/05/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetland Freq	Type	Food Value
<i>Lathyrus japonicus</i>	Beach pea	5	0.00	H	0
<i>Solidago sempervirens</i>	Seaside goldenrod	2	0.82	H	0
<i>Ammophila breviligulata</i>	Dune grass	50	0.00	H	0

WSI: 0.028 WSV: 0.000 BOG: 0.000 SALT: 0.035 DUNE: 0.912
SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.00 COMPACT: 0.00
MARSH SBCL: ROBUST: 0.00 BROADL: 0.00 NARROW: 0.87 FLOATING: 0.00
SUBTYPES: NV

WATERSHED: Beach Dunes

TYPE: Sand Dune Community

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 1-6) S of HA Harbor inlet, W of Rt1A, SE
 DU008 Field Date: 06/05/86 Report Date: 06/30/86

Scientific name	Common name	Abun-	Wetl	Type	Food
		dance	Freq		Value
<i>Solidago sempervirens</i>	Seaside goldenrod.	2	0.82	H	0
<i>Ammophila breviligulata</i>	Dune grass	50	0.00	H	0

WSI: 0.031 WVF: 0.000 BOG: 0.000 SALT: 0.038 DUNE: 1.000
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.00 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.00 NARROW: 0.96 FLOATING: 0.00
 SUBTYPES:N

WATERSHED: Beach Dunes TYPE: Sand Dune Community

Normandeau Assoc. Inc: ECOLOGICAL SUMMARY

Location: (Photo 1-4) The Sands, W of Rt1A, SE

DU009

Field Date: 06/05/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
<i>Amelanchier canadensis</i>	Canada serviceberry	10	0.50	T	1
<i>Prunus maritima</i>	Beach plum	10	0.00	S	3
<i>Pinus rigida</i>	Pitch pine	10	0.18	T	3
<i>Crataegus</i> sp.	Hawthorn	2	0.00	T	1
<i>Myrica pensylvanica</i>	Bayberry	15	0.50	S	2
<i>Rhus radicans</i>	Poison ivy	8	0.82	S	2
<i>Rosa virginiana</i>	Virginia rose	9	0.50	S	1
<i>Rhus typhina</i>	Staghorn sumac	6	0.00	T	2
<i>Prunus serotina</i>	Black cherry	5	0.18	T	3
<i>Populus tremuloides</i>	Quaking aspen	2	0.00	T	2
<i>Lonicera morrowii</i>	Morrow's honeysuckle	12	0.00	S	1
<i>Ammophila breviligulata</i>	Dune grass	60	0.00	H	0
<i>Hudsonia tomentosa</i>	Poverty-grass	4	0.00	S	0
<i>Oenothera parviflora</i>	Evening primrose	3		H	0
<i>Solidago sempervirens</i>	Seaside goldenrod	3	0.82	H	0
<i>Danthonia spicata</i>	Poverty grass	12	0.00	H	0
<i>Lathyrus japonicus</i>	Beach pea	3	0.00	H	0
<i>Artemesia caudata</i>	Wormwood	1	0.00	H	0
<i>Puccinellia maritima</i>	Alkali grass	1	1.00	H	0
<i>Puccinellia paupercula</i>	Alkali grass	1	0.82	H	0
<i>Lechea maritima</i>	Pinweed	1	0.00	H	0
<i>Limonium carolinianum</i>	Sea lavender	1	1.00	H	0
<i>Parthenocissus quinquefolia</i>	Virginia creeper	2	0.00	S	1
<i>Andropogon scoparius</i>	Broom beardgrass	15	0.00	H	0
<i>Aristida tuberculosa</i>	Seabeach needle grass	1		H	0
<i>Cakile edentula</i>	Searocket	1	0.18	H	0
<i>Cyperus grayii</i>	Gray's sedge	1		H	0
<i>Euphorbia polygonifolia</i>	Seaside spurge	1	0.00	H	0
<i>Solidago rugosa</i>	Rough-leaved goldenrod	1	0.50	H	0

WSI: 0.164 WVF: 0.213 BOG: 0.000 SALT: 0.034 DUNE: 0.527

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.04 BUSHY: 0.05 COMPACT: 0.13

MARSH SBCL: ROBUST: 0.00 BROADL: 0.00 NARROW: 0.45 FLOATING: 0.00

SUBTYPES:CNPUV

WATERSHED: Beach Dunes

TYPE: Sand Dune Community

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 1-4) Seabrook beach, E. of Rt1A, SE
 DU010 Field Date: 06/05/86 Report Date: 06/30/86

Scientific name	Common name	Abun-	Wetl	Type	Food
		dance	Freq		Value
<i>Rosa rugosa</i>	Salt-spray rose	8	0.00	S	1
<i>Myrica pensylvanica</i>	Bayberry	2	0.50	S	2
<i>Prunus maritima</i>	Beach plum	1	0.00	S	3
<i>Cakile edentula</i>	Searocket	1	0.18	H	0
<i>Artemisia stelleriana</i>	Dusty miller	1	0.18	H	0
<i>Solanum dulcamara</i>	Bittersweet	2	0.50	H	0
<i>Euphorbia cyparissias</i>	Cypress spurge	2	0.00	H	0
<i>Lathyrus japonicus</i>	Beach pea	5	0.00	H	0
<i>Ammophila breviligulata</i>	Dune grass	50	0.00	H	0
<i>Solidago sempervirens</i>	Seaside goldenrod	2	0.82	H	0
<i>Solidago sempervirens</i>	Seaside goldenrod	2	0.82	H	0

WSI: 0.074 WFV: 0.049 BOG: 0.000 SALT: 0.065 DUNE: 0.776
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.01 BUSHY: 0.10 COMPACT: 0.02
 MARSH SBCL: ROBUST: 0.00 BROADL: 0.02 NARROW: 0.65 FLOATING: 0.00
 SUBTYPES: CNUVW

WATERSHED: Beach Dunes TYPE: Sand Dune Community

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 1-26) New Castle Beach, NC

DU012 Field Date: 06/17/86

Report Date: 06/30/86

Scientific name	Common name	Abundance	Wetl Freq	Type	Food Value
<i>Pinus rigida</i>	Pitch pine	2	0.18	T	3
<i>Pinus rigida</i>	Pitch pine	1	0.18	S	3
<i>Rosa rugosa</i>	Salt-spray rose	8	0.00	S	1
<i>Rhus radicans</i>	Poison ivy	2	0.82	S	2
<i>Spiraea latifolia</i>	Meadowsweet	4	0.50	S	0
<i>Juniperus communis</i>	Juniper	1	0.00	S	1
<i>Rumex crispus</i>	Curled dock	1	0.82	H	0
<i>Ambrosia artemesiiifolia</i>	Common ragweed	1	0.00	H	4
<i>Oenothera biennis</i>	Evening primrose	1	0.18	H	0
<i>Artemisia stelleriana</i>	Dusty miller	3	0.18	H	0
<i>Artemisea vulgaris</i>	Common mugwort	2	0.00	H	0
<i>Polygonum cuspidatum</i>	Japanese knotweed	1	0.00	H	3
<i>Taraxacum officinale</i>	Dandelion	1	0.50	H	1
<i>Lathyrus japonicus</i>	Beach pea	2	0.00	H	0
<i>Daucus carota</i>	Queen anne's lace	2	0.00	H	0
<i>Ammophila breviligulata</i>	Dune grass	90	0.00	H	0
<i>Tanacetum vulgare</i>	Common tansy	2	0.00	H	0
<i>Agropyron repens</i>	Quack grass	5	0.00	H	1
<i>Brassica sp.</i>	Mustard	1	0.00	H	0
<i>Lepidium campestre</i>	Cow-cress	3	0.00	H	1
<i>Solidago sempervirens</i>	Seaside goldenrod	1	0.82	H	0

WSI: 0.052 WVF: 0.070 BOG: 0.000 SALT: 0.007 DUNE: 0.723

SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.05 COMPACT: 0.03

MARSH SBCL: ROBUST: 0.00 BROADL: 0.00 NARROW: 0.73 FLOATING: 0.00

SUBTYPES:CNUV

WATERSHED: Beach Dunes

TYPE: Sand Dune Community

Normandeau Assoc. Inc: E C O L O G I C A L S U M M A R Y

Location: (Photo 1-12) Plaice Cove, HA NH

DU013 Field Date: 06/30/86

Report Date: 06/30/86

Scientific name	Common name	Abun-	Wetl	Type	Food
		dance	Freq		Value
Rosa rugosa	Salt-spray rose	4	0.00	S	1
Rhus radicans	Poison ivy	2	0.82	S	2
Ammophila breviligulata	Dune grass	60	0.00	H	0
Lathyrus japonicus	Beach pea	10	0.00	H	0
Artemesia stelleriana	Dusty miller	2	0.18	H	0
Solidago sempervirens	Seaside goldenrod	3	0.82	H	0
Oenothera biennis	Evening primrose	3	0.18	H	0
Phragmites communis	Reed	3	0.82	H	0

WSI: 0.085 WFV: 0.022 BOG: 0.000 SALT: 0.034 DUNE: 0.747
 SHRUB SBCL: AQUATIC: 0.00 SAPLINGS: 0.00 BUSHY: 0.04 COMPACT: 0.00
 MARSH SBCL: ROBUST: 0.03 BROADL: 0.00 NARROW: 0.68 FLOATING: 0.00
 SUBTYPES:NRUV

WATERSHED: Beach Dunes TYPE: Sand Dune Community

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